



SEQUENCE LISTING

<110> ITOH, KYOGO  
SHICHIJO, SHIGEKI

<120> TUMOR ANTIGEN

<130> Q78382

<140> 10/734,049

<141> 2003-12-12

<150> PCT/JP02/05799

<151> 2002-06-11

<150> JP 2001-177058

<151> 2001-06-12

<150> JP 2001-250728

<151> 2001-08-21

<160> 436

<170> PatentIn Ver. 3.3

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

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Lys Leu Thr Gly Met Ala Phe Arg Val

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 2

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<210> 3  
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<220>  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 3  
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 T lymphocytes

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 T lymphocytes

<400> 5  
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 T lymphocytes

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<210> 7  
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T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 9  
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<210> 10  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 10  
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1 5 10

<210> 11  
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T lymphocytes

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

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<210> 13  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 13  
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1 5

<210> 14  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 14

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1 5 10

<210> 15

<211> 9

<212> PRT

<213> Artificial Sequence

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 15

Val Gln Phe Val Gln Gly Ile Phe Val  
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<210> 16

<211> 9

<212> PRT

<213> Artificial Sequence

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 16

Lys Ser Ala Leu Thr Val Gln Phe Val  
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<210> 17

<211> 10

<212> PRT

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T lymphocytes

<400> 17

Ile Met Asn Gln Glu Lys Leu Ala Lys Leu  
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<210> 18  
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 T lymphocytes

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<210> 19  
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<220>  
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 T lymphocytes

<400> 19  
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 T lymphocytes

<400> 20  
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<210> 21  
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 T lymphocytes

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<210> 22  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 22  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 23  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 24  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 25

Ala Leu Gln Lys Asp Val Glu Asp Phe Leu  
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<210> 26

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 26

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<210> 27

<211> 10

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<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 27

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<210> 28

<211> 10

<212> PRT

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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 28

Ala Leu Gly Gly Leu Pro Gly Pro Tyr Ile  
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<210> 29

<211> 9

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<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 29

Val Leu Val Glu Asp Thr Cys Leu Cys  
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<210> 30

<211> 9

<212> PRT

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<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 30

Ala Leu Cys Thr Phe Ala Leu Ser Thr  
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<210> 31

<211> 10

<212> PRT

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<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 31

Tyr Gln Gly Glu Pro Asp Glu Ile Ser Ile  
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<210> 32

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 32

Ile Leu Ala Leu Phe Met Pro Pro Thr  
1 5

<210> 33  
<211> 10  
<212> PRT  
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<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 33  
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<210> 34  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 34  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 35  
Gly Val Pro Pro Gly Gln Gly Phe Gly Val  
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<210> 36  
<211> 9  
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<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 36  
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1 5

<210> 37  
<211> 9  
<212> PRT  
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<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 37  
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<210> 38  
<211> 9  
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<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 38  
Thr Leu Met Met Lys His Gly Tyr Ile  
1 5

<210> 39  
<211> 10  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 39  
Leu Leu Pro Ser Arg Gln Phe Gly Phe Ile  
1 5 10

<210> 40  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 40

Ser Val Tyr Ala His Phe Pro Ile Asn Val  
1 5 10

&lt;210&gt; 41

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 41

Val Ile Gln Glu Asn Gly Ser Leu Val  
1 5

&lt;210&gt; 42

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 42

Ile Leu Ser Asn Gln Thr Val Asp Ile  
1 5

&lt;210&gt; 43

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 43

Lys Ile Phe Leu Ile Phe Phe Phe Phe Leu  
1 5 10

&lt;210&gt; 44

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

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<210> 45

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 45

Gly Met Ala Asp Ser Gln Asn Met Leu Val  
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<210> 46

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 46

Ile Ile Ser Glu Lys Tyr Gln Val Phe Ile  
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<210> 47

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

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<210> 48  
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 <220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 48  
 Phe Leu Phe Pro Ile Gln Ala Lys Thr  
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<210> 49  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 49  
 Ser Leu Ile Asn Ser Asn Val Gly Phe Val  
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<210> 50  
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<220>  
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       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 50  
 Lys Leu Gly Val Cys Phe Asp Val Pro Thr  
   1                  5                  10

<210> 51  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 51  
 Tyr Gln His Lys Glu Glu Tyr Gln Leu Val  
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<210> 52  
<211> 10  
<212> PRT  
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<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 52  
Met Val Phe Leu Lys Gly Lys Leu Gly Val  
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<210> 53  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 53  
Ala Leu Ala Ala Leu Ala His Ile  
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<210> 54  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 54  
Ile Gln Ala Lys Thr Phe His His Val  
1 5

<210> 55  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 55

Lys Val Val Ser Ser Lys Thr Lys Lys Val  
1 5 10

&lt;210&gt; 56

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 56

Ala Thr Phe Lys Ser Phe Glu Asp Arg Val  
1 5 10

&lt;210&gt; 57

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 57

Lys Ile Gly Pro Arg Arg Ile His Thr Val  
1 5 10

&lt;210&gt; 58

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 58

Thr Leu Val Lys Asn Cys Ile Val Leu Ile  
1 5 10

&lt;210&gt; 59

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 59

Arg Gln Trp Tyr Glu Ser His Tyr Ala  
1 5

<210> 60

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 60

Lys Leu Thr Pro Glu Glu Glu Ile  
1 5

<210> 61

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 61

Ile Leu Asn Lys Lys Arg Ser Lys Lys Ile  
1 5 10

<210> 62

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 62

Tyr Leu Asn Glu Gln Val Lys Ala Ile  
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<210> 63  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 63  
 Ser Leu Leu Glu Leu His Lys Leu Ala Thr  
 1 5 10

<210> 64  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 64  
 Phe Leu Gln Asp Ile Lys Lys Pro Asp Cys  
 1 5 10

<210> 65  
 <211> 10  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 65  
 Ile Asn Leu Glu Leu Tyr Ala Ser Tyr Val  
 1 5 10

<210> 66  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 66  
 Lys Ile Tyr Lys Ile Gly Gln Gly Tyr Leu  
 1 5 10

<210> 67  
 <211> 9  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 67  
 Lys Leu Ile Lys Asn Asn Ala Ser Thr  
 1 5

<210> 68  
 <211> 9  
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<220>  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 68  
 Gly Met Thr His Ile Val Arg Glu Val  
 1 5

<210> 69  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 69  
 Arg Leu Leu Pro Leu Arg Gln Lys Lys Ala  
 1 5 10

<210> 70  
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 <212> PRT  
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<220>  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 70

Phe Leu Ile Phe Glu Asp Arg Lys Phe Ala  
1 5 10

<210> 71

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 71

Ala Leu Gly Pro Ser Ile Cys Met Leu  
1 5

<210> 72

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 72

Gln Leu Ala Asp Ala Leu Gly Pro Ser Ile  
1 5 10

<210> 73

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 73

Gly Leu Pro Leu His Arg Gly Cys Leu Leu  
1 5 10

<210> 74

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 74

Tyr Leu Tyr Leu Ile Ser Ser Cys Ile  
1 5

<210> 75

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 75

Tyr Leu Ile Ser Ser Cys Ile Lys Pro Ile  
1 5 10

<210> 76

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 76

Val Ile Ser Cys Tyr Ile Cys Lys Val  
1 5

<210> 77

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 77

Trp Leu Ser Asp Gln Leu Gln Asn Asn Cys  
1 5 10

<210> 78  
 <211> 9  
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<220>  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 78  
 Met Leu Cys Gly Asn Ile Tyr Pro Ile  
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<210> 79  
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<220>  
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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 79  
 Tyr Leu Pro Ser Gly Ser Ser Ala His Leu  
 1 5 10

<210> 80  
 <211> 9  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 80  
 Ser Met Gln Asp Asp Ala Phe Pro Ala  
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<210> 81  
 <211> 9  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 81  
 Thr Leu Ile Pro Thr Phe Asp Ser Val  
 1 5

<210> 82  
 <211> 10  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 82  
 Phe Gln Arg Val Arg Ala Leu Cys Tyr Val  
       1                  5                  10

<210> 83  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 83  
 Val Leu Gly Ser Asn Gly Met Val Ser Met  
       1                  5                  10

<210> 84  
 <211> 10  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 84  
 Phe Leu Thr Lys Ile Phe His Pro Asn Val  
       1                  5                  10

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 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 85

Leu Leu Leu Glu Asn Tyr Glu Glu Tyr Ala  
1 5 10

<210> 86

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 86

Val Leu Leu Thr Ile Lys Cys Leu Leu  
1 5

<210> 87

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 87

Gly Leu Phe Arg Met Lys Leu Leu Leu  
1 5

<210> 88

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 88

Asn Leu Pro Pro His Ile Ile Arg Leu  
1 5

<210> 89

<211> 9

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 89

Lys Leu Thr Asn Thr Tyr Cys Leu Val  
1 5

<210> 90

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 90

Gly Leu Leu Val Pro Asn Asn Thr Thr  
1 5

<210> 91

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 91

Gly Met Val Val Asn Asp Trp Cys Ala  
1 5

<210> 92

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 92

Val Leu Leu Arg Gln Gly Val Leu Gly Ile  
1 5 10

<210> 93  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 93  
 Gly Leu Met Ile His Ser Gly Asp Pro Val  
 1 5 10

<210> 94  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 94  
 Ile Leu Ala Thr Arg Thr Gln Asn Val  
 1 5

<210> 95  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 95  
 Phe Val Ala Asp Gly Ile Phe Lys Ala  
 1 5

<210> 96  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 96  
 Phe Ile Met Glu Ser Gly Ala Lys Gly Cys  
 1 5 10

<210> 97  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 97  
 Trp Ile Pro Asn Asn Val Lys Thr Ala Val  
           1                  5                  10

<210> 98  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 98  
 Arg Ile Met Asn Thr Phe Ser Val Val  
           1                  5

<210> 99  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 99  
 Leu Val Ser Ala Thr Met Ser Gly Val  
           1                  5

<210> 100  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

&lt;400&gt; 100

Ser Leu Asn Arg Arg Ile Gln Leu Val  
 1 5

&lt;210&gt; 101

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

&lt;400&gt; 101

Arg Leu Ala Thr Ala Leu Gln Lys Leu  
 1 5

&lt;210&gt; 102

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

&lt;400&gt; 102

Gln Leu Val Glu Glu Glu Leu Asp Arg Ala  
 1 5 10

&lt;210&gt; 103

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

&lt;400&gt; 103

Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val  
 1 5 10

&lt;210&gt; 104

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 104

Phe Leu His Ser Gly His Leu His Ala  
1 5

<210> 105

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 105

Glu Leu Val Arg Phe Arg Gln Lys Val  
1 5

<210> 106

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 106

Lys Leu Ser Glu Ala Ala Gly Arg Val  
1 5

<210> 107

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 107

Met Val Leu Asp Leu Met Gln Gln Leu  
1 5

<210> 108  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 108  
 Ile Met Gln Asn Leu Leu Ser Lys Asp Val  
 1 5 10

<210> 109  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 109  
 Glu Leu Ala Glu Glu Glu Pro His Leu Val  
 1 5 10

<210> 110  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 110  
 Gly Leu Ala Asp Ser Gly Trp Phe Leu  
 1 5

<210> 111  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 111  
 Lys Gln Tyr Arg His Thr Asp Cys Val  
 1 5

<210> 112  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 112  
 Val Gln Trp Leu Phe Asp Glu Ala Gln Leu  
 1 5 10

<210> 113  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 113  
 Ile Ile Ile Arg Ser His Trp Thr Asp Val  
 1 5 10

<210> 114  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 114  
 Asn Leu Gly Arg Glu Leu Arg His Thr Leu  
 1 5 10

<210> 115  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 115

Leu Leu Gly Arg Gly Leu Ser Gly Ala  
1 5

<210> 116

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 116

Val Leu Tyr Leu Phe Tyr Glu Asp Met  
1 5

<210> 117

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 117

Tyr Val Ala Arg Asn Ala Lys Asp Val  
1 5

<210> 118

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 118

Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu  
1 5 10

<210> 119

<211> 10

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 119

Gly Leu Phe Ile Phe Ser Ile Val Phe Leu  
1 5 10

<210> 120

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 120

Trp Leu Leu Leu Pro Leu Leu Gly Ala Val  
1 5 10

<210> 121

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 121

Ile Leu Phe Arg Gly Val Gly Met Val  
1 5

<210> 122

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 122

Gly Leu Gln Ala Arg Asn Asn Ala Arg Val  
1 5 10

<210> 123  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 123  
 Asp Val Tyr Gly Val Phe Gln Phe Lys Val  
 1 5 10

<210> 124  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 124  
 Ser Leu Asn Pro Ile Leu Phe Arg Gly Val  
 1 5 10

<210> 125  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 125  
 Thr Leu His Thr Trp Gly Ser Lys Val  
 1 5

<210> 126  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 126  
 Cys Leu Pro Ser Gly Phe Pro Gly Leu  
 1 5

<210> 127  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 127  
Asn Leu Val Lys Cys Ile Lys Arg Leu  
1 5

<210> 128  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 128  
Thr Val Phe Leu Glu Gly Asn Leu Val  
1 5

<210> 129  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 129  
Phe Leu Leu Leu Leu Phe Glu Thr  
1 5

<210> 130  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 130

Tyr Ile Phe Phe Cys Val Leu Phe Leu  
1 5

<210> 131

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 131

Phe Leu Leu Leu Phe Gly Phe Trp Lys  
1 5

<210> 132

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 132

Ser Val His Pro Arg Leu Phe Leu Leu  
1 5

<210> 133

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 133

Ile Leu Phe Pro Arg Lys Pro Ser Ala  
1 5

<210> 134

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 134

Lys Val Ala Arg Thr Ile Gly Ile Ser Val  
1 5 10

<210> 135

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 135

Phe Leu Ala Ile Leu Gly Gly Ala Lys Val  
1 5 10

<210> 136

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 136

Val Val Met Arg Val Asp Phe Asn Val  
1 5

<210> 137

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 137

Lys Ile Thr Leu Pro Val Asp Phe Val  
1 5

<210> 138  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 138  
 Ser Leu Phe Asp Glu Glu Gly Ala Lys Ile  
   1                  5                  10

<210> 139  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 139  
 Gln Leu Ile Asn Asn Met Leu Asp Lys Val  
   1                  5                  10

<210> 140  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 140  
 Phe Cys Leu Asp Asn Gly Ala Lys Ser Val  
   1                  5                  10

<210> 141  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 141  
 Ile Ile Gly Gly Gly Met Ala Phe Thr  
   1                  5

<210> 142  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 142  
 Ala Leu Phe Val Ser Phe Ile Ile Asn Val  
 1 5 10

<210> 143  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 143  
 Val Leu Ile Thr Ile Ala Asp Thr Phe Val  
 1 5 10

<210> 144  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 144  
 Phe Leu Phe Leu Asp Lys Tyr Gly Leu  
 1 5

<210> 145  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 145

Ala Leu Thr Phe Gly Tyr Glu Tyr Val  
1 5

<210> 146

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 146

Tyr Leu Gly Trp Gln Cys Leu Ile Ala Leu  
1 5 10

<210> 147

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 147

Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr  
1 5 10

<210> 148

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 148

Met Leu Phe Ile His Ala Glu Val Ile  
1 5

<210> 149

<211> 9

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 149

Lys Leu Ile Lys Arg Ser Gly Tyr Ile  
1 5

<210> 150

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 150

Ser Leu Pro Val Cys Ser Leu Lys Leu Ile  
1 5 10

<210> 151

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 151

Phe Val Ile Ser Leu Pro Val Cys Ser Leu  
1 5 10

<210> 152

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 152

Lys Gln Phe Asp Glu Asn Thr Asn Trp Leu  
1 5 10

<210> 153  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 153  
 Phe Leu Asn Gly Tyr Asn Cys Thr Val  
 1 5

<210> 154  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 154  
 Ala Met Leu Lys Thr Arg Arg Ser Tyr Leu  
 1 5 10

<210> 155  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 155  
 Thr Leu Met Lys Pro Ser Ser Phe Thr Thr  
 1 5 10

<210> 156  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 156  
 Leu Leu Val Asn Ser Gly Pro Leu Ala Val  
 1 5 10

<210> 157  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 157  
 Met Leu Gly Ser Ala Asp Glu Pro Gly Val  
 1 5 10

<210> 158  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 158  
 Lys Gln Asn Asp Leu Pro Gly Ile Ser Val  
 1 5 10

<210> 159  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 159  
 Tyr Leu Thr Met Leu His Leu Tyr Lys Cys  
 1 5 10

<210> 160  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 160

Ile Thr Gly Glu Ala Phe Val Gln Phe Ala  
1 5 10

<210> 161

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 161

Val Val Ala Cys Asn Leu Tyr Pro Phe Val  
1 5 10

<210> 162

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 162

Met Leu Gly Gly Arg Val Lys Thr Leu  
1 5

<210> 163

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 163

Gln Leu Tyr Thr Leu Gln Pro Lys Leu  
1 5

<210> 164

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 164

Gly Leu Val Glu Phe Ala Arg Asn Leu  
1 5

<210> 165

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 165

Phe Val Ala Leu Ser Asp Val Cys Asp Val  
1 5 10

<210> 166

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 166

Arg Leu Asp Phe Asn Leu Ile Arg Val  
1 5

<210> 167

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 167

Ile Leu Ala His Thr Asn Leu Arg Leu  
1 5

<210> 168  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 168  
 Cys Met Val Tyr Asp Leu Tyr Lys Thr Leu  
           1                  5                  10

<210> 169  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 169  
 Trp Gln Leu Val Lys Glu Leu Lys Glu Ala  
           1                  5                  10

<210> 170  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 170  
 Leu Leu Leu Thr Ala Pro Asn Leu Leu  
           1                  5

<210> 171  
 <211> 10  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 171  
 Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr  
           1                  5                  10

<210> 172  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 172  
 Trp Leu Leu Gly Gly His Val Glu Leu  
 1 5

<210> 173  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 173  
 Phe Leu His Leu Leu Gln Ala Asp Asn Val  
 1 5 10

<210> 174  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 174  
 Leu Gln Ser Asp His Phe Leu His Leu Leu  
 1 5 10

<210> 175  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

&lt;400&gt; 175

Met Met Met Leu Gln Asn Ile Leu Gln Ile  
1 5 10

&lt;210&gt; 176

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 176

Gln Leu Val Gly Leu Leu Ser Pro Met Val  
1 5 10

&lt;210&gt; 177

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 177

Leu Leu Met Ala Glu Ser His Gln Glu Ile  
1 5 10

&lt;210&gt; 178

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 178

Lys Leu His Gln Ala Ala Cys Leu Ile  
1 5

&lt;210&gt; 179

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 179

Ile Leu Ser His Cys Cys Val Gly Leu  
1 5

<210> 180

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 180

Ser Leu Phe Trp Leu Leu Gly Gly His Val  
1 5 10

<210> 181

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 181

Lys Leu Phe Ala Pro Trp Arg Gly Leu  
1 5

<210> 182

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 182

Lys Leu Gly Glu Glu Ser Gly Asp Glu Ile  
1 5 10

<210> 183  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 183  
 Tyr Asp Tyr Asp Gly Tyr Arg Leu Arg Val  
       1                  5                  10

<210> 184  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 184  
 Arg Gly Gly Pro Pro Phe Ala Phe Val  
       1                  5

<210> 185  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 185  
 Thr Leu Gly Asp Ala His Ile Tyr Leu  
       1                  5

<210> 186  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 186  
 Tyr Met Ile Ala His Ile Thr Gly Leu  
       1                  5

<210> 187  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 187  
 Tyr Leu Asn His Ile Glu Pro Leu Lys Ile  
           1                          5                          10

<210> 188  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 188  
 Leu Met Ala Leu Pro Pro Cys His Ala Leu  
           1                          5                          10

<210> 189  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 189  
 Lys Leu Leu Trp Thr Thr Ser Arg Val  
           1                          5

<210> 190  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 190  
Arg Leu Val Gln Asn Cys Leu Trp Thr Leu  
1 5 10

<210> 191  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 191  
Val Leu Phe Tyr Ala Ile Thr Thr Leu  
1 5

<210> 192  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 192  
Ile Met Phe Asp Val Thr Ser Arg Val  
1 5

<210> 193  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 193  
Leu Thr Gly Glu Phe Glu Lys Lys Tyr Val  
1 5 10

<210> 194  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 194

Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu  
1 5 10

<210> 195

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 195

Phe Met Ile Leu Ala Ser Pro Arg Tyr Val  
1 5 10

<210> 196

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 196

Lys Leu Thr Ser Leu Gln Leu Gln His Leu  
1 5 10

<210> 197

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 197

Ser Leu Gln Leu Gln His Leu Phe Met Ile  
1 5 10

<210> 198  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 198  
 Gln Val Leu Pro Met Leu Arg Phe Val  
   1                  5

<210> 199  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 199  
 Lys Met Val Thr Met Val Ser Val Leu  
   1                  5

<210> 200  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 200  
 Ala Leu Phe Lys Cys Tyr Met Phe Leu  
   1                  5

<210> 201  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide recognized by HLA-A2 restricted cytotoxic  
       T lymphocytes

<400> 201  
 Phe Leu Ala Leu Pro Leu Glu Asp Val  
   1                  5

<210> 202  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 202  
Arg Leu Pro Leu Cys Arg Pro Gln Phe Leu  
1 5 10

<210> 203  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 203  
Leu Met Pro Glu Arg Arg Pro His Leu  
1 5

<210> 204  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 204  
Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala  
1 5 10

<210> 205  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 205

Lys Ile Leu Phe Lys Thr Trp His Leu  
1 5

<210> 206

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 206

Ile Leu Phe Lys Thr Trp His Leu Ile  
1 5

<210> 207

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 207

Phe Leu Pro Pro Phe Ser Leu Ser Leu  
1 5

<210> 208

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 208

Ser Leu Pro Leu Phe Leu Pro Pro Phe Leu  
1 5 10

<210> 209

<211> 10

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 209

Gly Leu Tyr Phe Leu Tyr Ser Met Pro Val  
1 5 10

<210> 210

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 210

Phe Val Gly Gly His Val Gly Trp Pro Thr  
1 5 10

<210> 211

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 211

Arg Leu His Asn Asp Arg Val Tyr Tyr Val  
1 5 10

<210> 212

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 212

Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val  
1 5 10

<210> 213  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 213  
 Tyr Val Ser Glu Lys Ile Met Lys Leu  
 1 5

<210> 214  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 214  
 Met Gly Lys Val Lys Val Gly Val Asn Gly Phe Gly Arg Ile Gly Arg  
 1 5 10 15  
 Leu Val Thr Arg Ala Ala Phe Asn Ser Gly Lys Val Asp Ile Val Ala  
 20 25 30  
 Ile Asn Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln  
 35 40 45  
 Tyr Asp Ser Thr His Gly Lys Phe His Gly Thr Val Lys Ala Glu Asn  
 50 55 60  
 Gly Lys Leu Val Ile Asn Gly Asn Pro Ile Thr Ile Phe Gln Glu Arg  
 65 70 75 80  
 Asp Pro Ser Lys Ile Lys Trp Gly Asp Ala Gly Ala Glu Tyr Val Val  
 85 90 95  
 Glu Ser Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu  
 100 105 110  
 Gln Gly Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala  
 115 120 125  
 Pro Met Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu  
 130 135 140  
 Lys Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu  
 145 150 155 160  
 Ala Lys Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr  
 165 170 175  
 Thr Val His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser  
 180 185 190

Gly Lys Leu Trp Arg Asp Gly Arg Gly Ala Leu Gln Asn Ile Ile Pro  
 195 200 205  
 Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu  
 210 215 220  
 Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Ala Asn Val  
 225 230 235 240  
 Ser Val Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp  
 245 250 255  
 Asp Ile Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly  
 260 265 270  
 Ile Leu Gly Tyr Thr Glu His Gln Val Val Ser Ser Asp Phe Asn Ser  
 275 280 285  
 Asp Thr His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn  
 290 295 300  
 Asp His Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Phe Gly Tyr  
 305 310 315 320  
 Ser Asn Arg Val Val Asp Leu Met Ala His Met Ala Ser Lys Glu  
 325 330 335

&lt;210&gt; 215

&lt;211&gt; 599

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 215

Met Ala Asp Lys Leu Thr Arg Ile Ala Ile Val Asn His Asp Lys Cys  
 1 5 10 15  
 Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val  
 20 25 30  
 Arg Met Gly Lys Leu Cys Ile Glu Val Thr Pro Gln Ser Lys Ile Ala  
 35 40 45  
 Trp Ile Ser Glu Thr Leu Cys Ile Gly Cys Gly Ile Cys Ile Lys Lys  
 50 55 60  
 Cys Pro Phe Gly Ala Leu Ser Ile Val Asn Leu Pro Ser Asn Leu Glu  
 65 70 75 80  
 Lys Glu Thr Thr His Arg Tyr Cys Ala Asn Ala Phe Lys Leu His Arg  
 85 90 95  
 Leu Pro Ile Pro Arg Pro Gly Glu Val Leu Gly Leu Val Gly Thr Asn  
 100 105 110  
 Gly Ile Gly Lys Ser Thr Ala Leu Lys Ile Leu Ala Gly Lys Gln Lys  
 115 120 125

Pro Asn Leu Gly Lys Tyr Asp Asp Pro Pro Asp Trp Gln Glu Ile Leu  
 130 135 140  
 Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Lys Ile Leu  
 145 150 155 160  
 Glu Asp Asp Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Asp Gln Ile  
 165 170 175  
 Pro Lys Ala Ala Lys Gly Thr Val Gly Ser Ile Leu Asp Arg Lys Asp  
 180 185 190  
 Glu Thr Lys Thr Gln Ala Ile Val Cys Gln Gln Leu Asp Leu Thr His  
 195 200 205  
 Leu Lys Glu Arg Asn Val Glu Asp Leu Ser Gly Gly Glu Leu Gln Arg  
 210 215 220  
 Phe Ala Cys Ala Val Val Cys Ile Gln Lys Ala Asp Ile Phe Met Phe  
 225 230 235 240  
 Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala  
 245 250 255  
 Ile Thr Ile Arg Ser Leu Ile Asn Pro Asp Arg Tyr Ile Ile Val Val  
 260 265 270  
 Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys  
 275 280 285  
 Leu Tyr Gly Val Pro Ser Ala Tyr Gly Val Val Thr Met Pro Phe Ser  
 290 295 300  
 Val Arg Glu Gly Ile Asn Ile Phe Leu Asp Gly Tyr Val Pro Thr Glu  
 305 310 315 320  
 Asn Leu Arg Phe Arg Asp Ala Ser Leu Val Phe Lys Val Ala Glu Thr  
 325 330 335  
 Ala Asn Glu Glu Glu Val Lys Lys Met Cys Met Tyr Lys Tyr Pro Gly  
 340 345 350  
 Met Lys Lys Lys Met Gly Glu Phe Glu Leu Ala Ile Val Ala Gly Glu  
 355 360 365  
 Phe Thr Asp Ser Glu Ile Met Val Met Leu Gly Glu Asn Gly Thr Gly  
 370 375 380  
 Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Arg Leu Lys Pro Asp Glu  
 385 390 395 400  
 Gly Gly Glu Val Pro Val Leu Asn Val Ser Tyr Lys Pro Gln Lys Ile  
 405 410 415  
 Ser Pro Lys Ser Thr Gly Ser Val Arg Gln Leu Leu His Glu Lys Ile  
 420 425 430

Arg Asp Ala Tyr Thr His Pro Gln Phe Val Thr Asp Val Met Lys Pro  
 435 440 445  
 Leu Gln Ile Glu Asn Ile Ile Asp Gln Glu Val Gln Thr Leu Ser Gly  
 450 455 460  
 Gly Glu Leu Gln Arg Val Ala Leu Ala Leu Cys Leu Gly Lys Pro Ala  
 465 470 475 480  
 Asp Val Tyr Leu Ile Asp Glu Pro Ser Ala Tyr Leu Asp Ser Glu Gln  
 485 490 495  
 Arg Leu Met Ala Ala Arg Val Val Lys Arg Phe Ile Leu His Ala Lys  
 500 505 510  
 Lys Thr Ala Phe Val Val Glu His Asp Phe Ile Met Ala Thr Tyr Leu  
 515 520 525  
 Ala Asp Arg Val Ile Val Phe Asp Gly Val Pro Ser Lys Asn Thr Val  
 530 535 540  
 Ala Asn Ser Pro Gln Thr Leu Leu Ala Gly Met Asn Lys Phe Leu Ser  
 545 550 555 560  
 Gln Leu Glu Ile Thr Phe Arg Arg Asp Pro Asn Asn Tyr Arg Pro Arg  
 565 570 575  
 Ile Asn Lys Leu Asn Ser Ile Lys Asp Val Glu Gln Lys Lys Ser Gly  
 580 585 590  
 Asn Tyr Phe Phe Leu Asp Asp  
 595

<210> 216  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 216  
 Met Ser Asp Gln Glu Ala Lys Pro Ser Thr Glu Asp Leu Gly Asp Lys  
 1 5 10 15  
 Lys Glu Gly Glu Tyr Ile Lys Leu Lys Val Ile Gly Gln Asp Ser Ser  
 20 25 30  
 Glu Ile His Phe Lys Val Lys Met Thr Thr His Leu Lys Lys Leu Lys  
 35 40 45  
 Glu Ser Tyr Cys Gln Arg Gln Gly Val Pro Met Asn Ser Leu Arg Phe  
 50 55 60  
 Leu Phe Glu Gly Gln Arg Ile Ala Asp Asn His Thr Pro Lys Glu Leu  
 65 70 75 80  
 Gly Met Glu Glu Glu Asp Val Ile Glu Val Tyr Gln Glu Gln Thr Gly  
 85 90 95

Gly His Ser Thr Val  
100

<210> 217  
<211> 249  
<212> PRT  
<213> Homo sapiens

<400> 217  
Met Lys Leu Asn Ile Ser Phe Pro Ala Thr Gly Cys Gln Lys Leu Ile  
1 5 10 15  
Glu Val Asp Asp Glu Arg Lys Leu Arg Thr Phe Tyr Glu Lys Arg Met  
20 25 30  
Ala Thr Glu Val Ala Ala Asp Ala Leu Gly Glu Glu Trp Lys Gly Tyr  
35 40 45  
Val Val Arg Ile Ser Gly Gly Asn Asp Lys Gln Gly Phe Pro Met Lys  
50 55 60  
Gln Gly Val Leu Thr His Gly Arg Val Arg Leu Leu Leu Ser Lys Gly  
65 70 75 80  
His Ser Cys Tyr Arg Pro Arg Arg Thr Gly Glu Arg Lys Arg Lys Ser  
85 90 95  
Val Arg Gly Cys Ile Val Asp Ala Asn Leu Ser Val Leu Asn Leu Val  
100 105 110  
Ile Val Lys Lys Gly Glu Lys Asp Ile Pro Gly Leu Thr Asp Thr Thr  
115 120 125  
Val Pro Arg Arg Leu Gly Pro Lys Arg Ala Ser Arg Ile Arg Lys Leu  
130 135 140  
Phe Asn Leu Ser Lys Glu Asp Asp Val Arg Gln Tyr Val Val Arg Lys  
145 150 155 160  
Pro Leu Asn Lys Glu Gly Lys Lys Pro Arg Thr Lys Ala Pro Lys Ile  
165 170 175  
Gln Arg Leu Val Thr Pro Arg Val Leu Gln His Lys Arg Arg Arg Ile  
180 185 190  
Ala Leu Lys Lys Gln Arg Thr Lys Lys Asn Lys Glu Glu Ala Ala Glu  
195 200 205  
Tyr Ala Lys Leu Leu Ala Lys Arg Met Lys Glu Ala Lys Glu Lys Arg  
210 215 220  
Gln Glu Gln Ile Ala Lys Arg Arg Arg Leu Ser Ser Leu Arg Ala Ser  
225 230 235 240  
Thr Ser Lys Ser Glu Ser Ser Gln Lys  
245

<210> 218  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 218  
 Met Arg Glu Tyr Lys Leu Val Val Leu Gly Ser Gly Gly Val Gly Lys  
   1                  5                  10                  15  
 Ser Ala Leu Thr Val Gln Phe Val Gln Gly Ile Phe Val Glu Lys Tyr  
                   20                  25                  30  
 Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Glu Val Asp Ala  
                   35                  40                  45  
 Gln Gln Cys Met Leu Glu Ile Leu Asp Thr Ala Gly Thr Glu Gln Phe  
                   50                  55                  60  
 Thr Ala Met Arg Asp Leu Tyr Met Lys Asn Gly Gln Gly Phe Ala Leu  
   65                  70                  75                  80  
 Val Tyr Ser Ile Thr Ala Gln Ser Thr Phe Asn Asp Leu Gln Asp Leu  
                   85                  90                  95  
 Arg Glu Gln Ile Leu Arg Val Lys Asp Thr Asp Asp Val Pro Met Ile  
                   100                  105                  110  
 Leu Val Gly Asn Lys Cys Asp Leu Glu Asp Glu Arg Val Val Gly Lys  
                   115                  120                  125  
 Glu Gln Gly Gln Asn Leu Ala Arg Gln Trp Asn Asn Cys Ala Phe Leu  
                   130                  135                  140  
 Glu Ser Ser Ala Lys Ser Lys Ile Asn Val Asn Glu Ile Phe Tyr Asp  
   145                  150                  155                  160  
 Leu Val Arg Gln Ile Asn Arg Lys Thr Pro Val Pro Gly Lys Ala Arg  
                   165                  170                  175  
 Lys Lys Ser Ser Cys Gln Leu Leu  
                   180

<210> 219  
 <211> 162  
 <212> PRT  
 <213> Homo sapiens

<400> 219  
 Met Lys Glu Thr Ile Met Asn Gln Glu Lys Leu Ala Lys Leu Gln Ala  
   1                  5                  10                  15  
 Gln Val Arg Ile Gly Gly Lys Gly Thr Ala Arg Arg Lys Lys Lys Val  
                   20                  25                  30  
 Val His Arg Thr Ala Thr Ala Asp Asp Lys Lys Leu Gln Phe Ser Leu  
                   35                  40                  45

Lys Lys Leu Gly Val Asn Asn Ile Ser Gly Ile Glu Glu Val Asn Met  
 50 55 60

Phe Thr Asn Gln Gly Thr Val Ile His Phe Asn Asn Pro Lys Val Gln  
 65 70 75 80

Ala Ser Leu Ala Ala Asn Thr Phe Thr Ile Thr Gly His Ala Glu Thr  
 85 90 95

Lys Gln Leu Thr Glu Met Leu Pro Ser Ile Leu Asn Gln Leu Gly Ala  
 100 105 110

Asp Ser Leu Thr Ser Leu Arg Arg Leu Ala Glu Ala Leu Pro Lys Gln  
 115 120 125

Ser Val Asp Gly Lys Ala Pro Leu Ala Thr Gly Glu Asp Asp Asp Asp  
 130 135 140

Glu Val Pro Asp Leu Val Glu Asn Phe Asp Glu Ala Ser Lys Asn Glu  
 145 150 155 160

Ala Asn

<210> 220

<211> 180

<212> PRT

<213> Homo sapiens

<400> 220

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile  
 1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp  
 20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser  
 35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val  
 50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg  
 65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys  
 85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His  
 100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr  
 115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly  
 130 135 140



Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala  
 145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu  
 165 170 175

Glu Thr Leu Thr  
 180

<210> 221

<211> 166

<212> PRT

<213> Homo sapiens

<400> 221

Met Ala Ala Thr Met Phe Arg Ala Thr Leu Arg Gly Trp Arg Thr Gly  
 1 5 10 15

Val Gln Arg Gly Cys Gly Leu Arg Leu Leu Ser Gln Thr Gln Gly Pro  
 20 25 30

Pro Asp Tyr Pro Arg Phe Val Glu Ser Val Asp Glu Tyr Gln Phe Val  
 35 40 45

Glu Arg Leu Leu Pro Ala Thr Arg Ile Pro Asp Pro Pro Lys His Glu  
 50 55 60

His Tyr Pro Thr Pro Ser Gly Trp Gln Pro Pro Arg Asp Pro Pro Pro  
 65 70 75 80

Asn Leu Pro Tyr Phe Val Arg Arg Ser Arg Met His Asn Ile Pro Val  
 85 90 95

Tyr Lys Asp Ile Thr His Gly Asn Arg Gln Met Thr Val Ile Arg Lys  
 100 105 110

Val Glu Gly Asp Ile Trp Ala Leu Gln Lys Asp Val Glu Asp Phe Leu  
 115 120 125

Ser Pro Leu Leu Gly Lys Thr Pro Val Thr Gln Val Asn Glu Val Thr  
 130 135 140

Gly Thr Leu Arg Ile Lys Gly Tyr Phe Asp Gln Glu Leu Lys Ala Trp  
 145 150 155 160

Leu Leu Glu Lys Gly Phe  
 165

<210> 222

<211> 194

<212> PRT

<213> Homo sapiens

&lt;400&gt; 222

Met Ala Ala Ser Leu Val Gly Lys Lys Ile Val Phe Val Thr Gly Asn  
 1 5 10 15  
 Ala Lys Lys Leu Glu Glu Val Val Gln Ile Leu Gly Asp Lys Phe Pro  
 20 25 30  
 Cys Thr Leu Val Ala Gln Lys Ile Asp Leu Pro Glu Tyr Gln Gly Glu  
 35 40 45  
 Pro Asp Glu Ile Ser Ile Gln Lys Cys Gln Glu Ala Val Arg Gln Val  
 50 55 60  
 Gln Gly Pro Val Leu Val Glu Asp Thr Cys Leu Cys Phe Asn Ala Leu  
 65 70 75 80  
 Gly Gly Leu Pro Gly Pro Tyr Ile Lys Trp Phe Leu Glu Lys Leu Lys  
 85 90 95  
 Pro Glu Gly Leu His Gln Leu Leu Ala Gly Phe Glu Asp Lys Ser Ala  
 100 105 110  
 Tyr Ala Leu Cys Thr Phe Ala Leu Ser Thr Gly Asp Pro Ser Gln Pro  
 115 120 125  
 Val Arg Leu Phe Arg Gly Arg Thr Ser Gly Arg Ile Val Ala Pro Arg  
 130 135 140  
 Gly Cys Gln Asp Phe Gly Trp Asp Pro Cys Phe Gln Pro Asp Gly Tyr  
 145 150 155 160  
 Glu Gln Thr Tyr Ala Glu Met Pro Lys Ala Glu Lys Asn Ala Val Ser  
 165 170 175  
 His Arg Phe Arg Ala Leu Leu Glu Leu Gln Glu Tyr Phe Gly Ser Leu  
 180 185 190  
 Ala Ala

&lt;210&gt; 223

&lt;211&gt; 466

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 223

Met Ser Tyr Pro Gly Tyr Pro Pro Thr Gly Tyr Pro Pro Phe Pro Gly  
 1 5 10 15  
 Tyr Pro Pro Ala Gly Gln Glu Ser Ser Phe Pro Pro Ser Gly Gln Tyr  
 20 25 30  
 Pro Tyr Pro Ser Gly Phe Pro Pro Met Gly Gly Gly Ala Tyr Pro Gln  
 35 40 45  
 Val Pro Ser Ser Gly Tyr Pro Gly Ala Gly Gly Tyr Pro Ala Pro Gly  
 50 55 60

Gly Tyr Pro Ala Pro Gly Gly Tyr Pro Gly Ala Pro Gln Pro Gly Gly  
 65 70 75 80  
 Ala Pro Ser Tyr Pro Gly Val Pro Pro Gly Gln Gly Phe Gly Val Pro  
 85 90 95  
 Pro Gly Gly Ala Gly Phe Ser Gly Tyr Pro Gln Pro Pro Ser Gln Ser  
 100 105 110  
 Tyr Gly Gly Gly Pro Ala Gln Val Pro Leu Pro Gly Gly Phe Pro Gly  
 115 120 125  
 Gly Gln Met Pro Ser Gln Tyr Pro Gly Gly Gln Pro Thr Tyr Pro Ser  
 130 135 140  
 Gln Pro Ala Thr Val Thr Gln Val Thr Gln Gly Thr Ile Arg Pro Ala  
 145 150 155 160  
 Ala Asn Phe Asp Ala Ile Arg Asp Ala Glu Ile Leu Arg Lys Ala Met  
 165 170 175  
 Lys Gly Phe Gly Thr Asp Glu Gln Ala Ile Val Asp Val Val Ala Asn  
 180 185 190  
 Arg Ser Asn Asp Gln Arg Gln Lys Ile Lys Ala Ala Phe Lys Thr Ser  
 195 200 205  
 Tyr Gly Lys Asp Leu Ile Lys Asp Leu Lys Ser Glu Leu Ser Gly Asn  
 210 215 220  
 Met Glu Glu Leu Ile Leu Ala Leu Phe Met Pro Pro Thr Tyr Tyr Asp  
 225 230 235 240  
 Ala Trp Ser Leu Arg Lys Ala Met Gln Gly Ala Gly Thr Gln Glu Arg  
 245 250 255  
 Val Leu Ile Glu Ile Leu Cys Thr Arg Thr Asn Gln Glu Ile Arg Glu  
 260 265 270  
 Ile Val Arg Cys Tyr Gln Ser Glu Phe Gly Arg Asp Leu Glu Lys Asp  
 275 280 285  
 Ile Arg Ser Asp Thr Ser Gly His Phe Glu Arg Leu Leu Val Ser Met  
 290 295 300  
 Cys Gln Gly Asn Arg Asp Glu Asn Gln Ser Ile Asn His Gln Met Ala  
 305 310 315 320  
 Gln Glu Asp Ala Gln Arg Leu Tyr Gln Ala Gly Glu Gly Arg Leu Gly  
 325 330 335  
 Thr Asp Glu Ser Cys Phe Asn Met Ile Leu Ala Thr Arg Ser Phe Pro  
 340 345 350  
 Gln Leu Arg Ala Thr Met Glu Ala Tyr Ser Arg Met Ala Asn Arg Asp  
 355 360 365

Leu Leu Ser Ser Val Ser Arg Glu Phe Ser Gly Tyr Val Glu Ser Gly  
 370 375 380

Leu Lys Thr Ile Leu Gln Cys Ala Leu Asn Arg Pro Ala Phe Phe Ala  
 385 390 395 400

Glu Arg Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp Asp Ser Thr  
 405 410 415

Leu Val Arg Ile Val Val Thr Arg Ser Glu Ile Asp Leu Val Gln Ile  
 420 425 430

Lys Gln Met Phe Ala Gln Met Tyr Gln Lys Thr Leu Gly Thr Met Ile  
 435 440 445

Ala Gly Asp Thr Ser Gly Asp Tyr Arg Arg Leu Leu Leu Ala Ile Val  
 450 455 460

Gly Gln  
 465

<210> 224

<211> 130

<212> PRT

<213> Homo sapiens

<400> 224

Met Val Arg Met Asn Val Leu Ala Asp Ala Leu Lys Ser Ile Asn Asn  
 1 5 10 15

Ala Glu Lys Arg Gly Lys Arg Gln Val Leu Ile Arg Pro Cys Ser Lys  
 20 25 30

Val Ile Val Arg Phe Leu Thr Val Met Met Lys His Gly Tyr Ile Gly  
 35 40 45

Glu Phe Glu Ile Ile Asp Asp His Arg Ala Gly Lys Ile Val Val Asn  
 50 55 60

Leu Thr Gly Arg Leu Asn Lys Cys Gly Val Ile Ser Pro Arg Phe Asp  
 65 70 75 80

Val Gln Leu Lys Asp Leu Glu Lys Trp Gln Asn Asn Leu Leu Pro Ser  
 85 90 95

Arg Gln Phe Gly Phe Ile Val Leu Thr Thr Ser Ala Gly Ile Met Asp  
 100 105 110

His Glu Glu Ala Arg Arg Lys His Thr Gly Gly Lys Ile Leu Gly Phe  
 115 120 125

Phe Phe  
 130

<210> 225  
 <211> 192  
 <212> PRT  
 <213> Homo sapiens

<400> 225  
 Met Lys Thr Ile Leu Ser Asn Gln Thr Val Asp Ile Pro Glu Asn Val  
   1                  5                  10                  15  
 Asp Ile Thr Leu Lys Gly Arg Thr Val Ile Val Lys Gly Pro Arg Gly  
           20                  25                  30  
 Thr Leu Arg Arg Asp Phe Asn His Ile Asn Val Glu Leu Ser Leu Leu  
           35                  40                  45  
 Gly Lys Lys Lys Lys Arg Leu Arg Val Asp Lys Trp Trp Gly Asn Arg  
       50                  55                  60  
 Lys Glu Leu Ala Thr Val Arg Thr Ile Cys Ser His Val Gln Asn Met  
       65                  70                  75                  80  
 Ile Lys Gly Val Thr Leu Gly Phe Arg Tyr Lys Met Arg Ser Val Tyr  
           85                  90                  95  
 Ala His Phe Pro Ile Asn Val Val Ile Gln Glu Asn Gly Ser Leu Val  
           100                  105                  110  
 Glu Ile Arg Asn Phe Leu Gly Glu Lys Tyr Ile Arg Arg Val Arg Met  
       115                  120                  125  
 Arg Pro Gly Val Ala Cys Ser Val Ser Gln Ala Gln Lys Asp Glu Leu  
       130                  135                  140  
 Ile Leu Glu Gly Asn Asp Ile Glu Leu Val Ser Asn Ser Ala Ala Leu  
       145                  150                  155                  160  
 Ile Gln Gln Ala Thr Thr Val Lys Asn Lys Asp Ile Arg Lys Phe Leu  
           165                  170                  175  
 Asp Gly Ile Tyr Val Ser Glu Lys Gly Thr Val Gln Gln Ala Asp Glu  
           180                  185                  190

<210> 226  
 <211> 67  
 <212> PRT  
 <213> Homo sapiens

<400> 226  
 Met Leu Leu Tyr Ile Asn Arg Ala Arg Pro Glu Gly Gly Arg Gly Ala  
   1                  5                  10                  15  
 Gly Ala Glu Gly Arg Ser Asn Gln Ile Ser Asn Phe Leu Leu Ile Ile  
           20                  25                  30

70

Asn Pro Leu Phe Thr Ala Val Ser Val Val Ile Phe Lys Ile Phe Leu  
35 40 45

Ile Phe Phe Phe Phe Leu Leu Leu Leu Phe Thr Ser Cys Val Tyr Val  
50 55 60

Gly Asn Leu  
65

<210> 227  
<211> 66  
<212> PRT  
<213> Homo sapiens

<400> 227  
Met His Phe His Asn Ile Cys Leu Leu Glu Arg Ser Ile Ile Ser Glu  
1 5 10 15

Lys Tyr Gln Val Phe Ile Lys Phe Leu Gly Met Ala Asp Ser Gln Asn  
20 25 30

Met Leu Val Ser Leu Gln Tyr Ser Ser Arg Arg Ala Asn Gln Gly Arg  
35 40 45

Ala Gly Met Arg Ser Asp Ile Cys Val Thr Lys Ser Ile Phe Leu Ile  
50 55 60

Ser Leu  
65

<210> 228  
<211> 145  
<212> PRT  
<213> Homo sapiens

<400> 228  
Met Ile Leu Gln Cys Ser Ile Glu Met Pro Asn Ile Ser Tyr Ala Trp  
1 5 10 15

Lys Glu Leu Lys Glu Gln Leu Gly Glu Glu Ile Asp Ser Lys Val Lys  
20 25 30

Gly Met Val Phe Leu Lys Gly Lys Leu Gly Val Cys Phe Asp Val Pro  
35 40 45

Thr Ala Ser Val Thr Glu Ile Gln Glu Lys Trp His Asp Ser Arg Arg  
50 55 60

Trp Gln Leu Ser Val Ala Thr Glu Gln Pro Glu Leu Glu Gly Pro Arg  
65 70 75 80

Glu Gly Tyr Gly Gly Phe Arg Gly Gln Arg Glu Gly Ser Arg Gly Phe  
85 90 95

Arg Gly Gln Arg Asp Gly Asn Arg Arg Phe Arg Gly Gln Arg Glu Gly  
100 105 110

Ser Arg Gly Pro Arg Gly Gln Arg Ser Gly Gly Gly Asn Lys Ser Asn  
 115 120 125

Arg Ser Gln Asn Lys Gly Gln Lys Arg Ser Phe Ser Lys Ala Phe Gly  
 130 135 140

Gln  
 145

<210> 229  
 <211> 49  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Arg Asn Ser Ala Thr Phe Lys Ser Phe Glu Asp Arg Val Gly Thr  
 1 5 10 15

Ile Lys Ser Lys Val Val Gly Asp Arg Glu Asn Gly Ser Asp Asn Leu  
 20 25 30

Pro Ser Ser Ala Gly Ser Gly Asp Lys Pro Leu Ser Asp Pro Ala Pro  
 35 40 45

Phe

<210> 230  
 <211> 208  
 <212> PRT  
 <213> Homo sapiens

<400> 230  
 Met Gly Ile Ser Arg Asp Asn Trp His Lys Arg Arg Lys Thr Gly Gly  
 1 5 10 15

Lys Arg Lys Pro Tyr His Lys Lys Arg Lys Tyr Glu Leu Gly Arg Pro  
 20 25 30

Ala Ala Asn Thr Lys Ile Gly Pro Arg Arg Ile His Thr Val Arg Val  
 35 40 45

Arg Gly Gly Asn Lys Lys Tyr Arg Ala Leu Arg Leu Asp Val Gly Asn  
 50 55 60

Phe Ser Trp Gly Ser Glu Cys Cys Thr Arg Lys Thr Arg Ile Ile Asp  
 65 70 75 80

Val Val Tyr Asn Ala Ser Asn Asn Glu Leu Val Arg Thr Lys Thr Leu  
 85 90 95

Val Lys Asn Cys Ile Val Leu Ile Asp Ser Thr Pro Tyr Arg Gln Trp  
 100 105 110

Tyr Glu Ser His Tyr Ala Leu Pro Leu Gly Arg Lys Lys Gly Ala Lys  
 115 120 125  
 Leu Thr Pro Glu Glu Glu Glu Ile Leu Asn Lys Lys Arg Ser Lys Lys  
 130 135 140  
 Ile Gln Lys Lys Tyr Asp Glu Arg Lys Lys Asn Ala Lys Ile Ser Ser  
 145 150 155 160  
 Leu Leu Glu Glu Gln Phe Gln Gln Gly Lys Leu Leu Ala Cys Ile Ala  
 165 170 175  
 Ser Arg Pro Gly Gln Cys Gly Arg Ala Asp Gly Tyr Val Leu Glu Gly  
 180 185 190  
 Lys Glu Leu Glu Phe Tyr Leu Arg Lys Ile Lys Ala Arg Lys Gly Lys  
 195 200 205

<210> 231  
 <211> 183  
 <212> PRT  
 <213> Homo sapiens

<400> 231  
 Met Thr Thr Ala Ser Thr Ser Gln Val Arg Gln Asn Tyr His Gln Asp  
 1 5 10 15  
 Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser  
 20 25 30  
 Tyr Val Tyr Leu Ser Met Ser Tyr Tyr Phe Asp Arg Asp Asp Val Ala  
 35 40 45  
 Leu Lys Asn Phe Ala Lys Tyr Phe Leu His Gln Ser His Glu Glu Arg  
 50 55 60  
 Glu His Ala Glu Lys Leu Met Lys Leu Gln Asn Gln Arg Gly Gly Arg  
 65 70 75 80  
 Ile Phe Leu Gln Asp Ile Lys Lys Pro Asp Cys Asp Asp Trp Glu Ser  
 85 90 95  
 Gly Leu Asn Ala Met Glu Cys Ala Leu His Leu Glu Lys Asn Val Asn  
 100 105 110  
 Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys Asn Asp Pro  
 115 120 125  
 His Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys  
 130 135 140  
 Ala Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly  
 145 150 155 160



Ala Pro Glu Ser Gly Leu Ala Glu Tyr Leu Phe Asp Lys His Thr Leu  
165 170 175

Gly Asp Ser Asp Asn Glu Ser  
180

<210> 232

<211> 403

<212> PRT

<213> Homo sapiens

<400> 232

Met Ser His Arg Lys Phe Ser Ala Pro Arg His Gly Ser Leu Gly Phe  
1 5 10 15

Leu Pro Arg Lys Arg Ser Ser Arg His Arg Gly Lys Val Lys Ser Phe  
20 25 30

Pro Lys Asp Asp Pro Ser Lys Pro Val His Leu Thr Ala Phe Leu Gly  
35 40 45

Tyr Lys Ala Gly Met Thr His Ile Val Arg Glu Val Asp Arg Pro Gly  
50 55 60

Ser Lys Val Asn Lys Lys Glu Val Val Glu Ala Val Thr Ile Val Glu  
65 70 75 80

Thr Pro Pro Met Val Val Val Gly Ile Val Gly Tyr Val Glu Thr Pro  
85 90 95

Arg Gly Leu Arg Thr Phe Lys Thr Val Phe Ala Glu His Ile Ser Asp  
100 105 110

Glu Cys Lys Arg Arg Phe Tyr Lys Asn Trp His Lys Ser Lys Lys Lys  
115 120 125

Ala Phe Thr Lys Tyr Cys Lys Lys Trp Gln Asp Glu Asp Gly Lys Lys  
130 135 140

Gln Leu Glu Lys Asp Phe Ser Ser Met Lys Lys Tyr Cys Gln Val Ile  
145 150 155 160

Arg Val Ile Ala His Thr Gln Met Arg Leu Leu Pro Leu Arg Gln Lys  
165 170 175

Lys Ala His Leu Met Glu Ile Gln Val Asn Gly Gly Thr Val Ala Glu  
180 185 190

Lys Leu Asp Trp Ala Arg Glu Arg Leu Glu Gln Gln Val Pro Val Asn  
195 200 205

Gln Val Phe Gly Gln Asp Glu Met Ile Asp Val Ile Gly Val Thr Lys  
210 215 220

Gly Lys Gly Tyr Lys Gly Val Thr Ser Arg Trp His Thr Lys Lys Leu  
225 230 235 240

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<210> 233
<211> 480
<212> PRT
<213> Homo sapiens
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Met 1	Ala	Val	Ala	Arg 5	Ala	Ala	Leu	Gly	Pro 10	Leu	Val	Thr	Gly	Leu 15	Tyr
Asp	Val	Gln	Ala 20	Phe	Lys	Phe	Gly	Asp 25	Phe	Val	Leu	Lys	Ser 30	Gly	Leu
Ser	Ser	Pro 35	Ile	Tyr	Ile	Asp	Leu 40	Arg	Gly	Ile	Val	Ser 45	Arg	Pro	Arg
Leu 50	Leu	Ser	Gln	Val	Ala	Asp 55	Ile	Leu	Phe	Gln 60	Thr	Ala	Gln	Asn	Ala
Gly 65	Ile	Ser	Phe	Asp	Thr 70	Val	Cys	Gly	Val	Pro 75	Tyr	Thr	Ala	Leu	Pro 80
Leu	Ala	Thr	Val	Ile 85	Cys	Ser	Thr	Asn	Gln 90	Ile	Pro	Met	Leu	Ile 95	Arg

Arg	Lys	Glu	Thr	Lys	Asp	Tyr	Gly	Thr	Lys	Arg	Leu	Val	Glu	Gly	Thr	100	105	110	
Ile	Asn	Pro	Gly	Glu	Thr	Cys	Leu	Ile	Ile	Glu	Asp	Val	Val	Thr	Ser	115	120	125	
Gly	Ser	Ser	Val	Leu	Glu	Thr	Val	Glu	Val	Leu	Gln	Lys	Glu	Gly	Leu	130	135	140	
Lys	Val	Thr	Asp	Ala	Ile	Val	Leu	Leu	Asp	Arg	Glu	Gln	Gly	Gly	Lys	145	150	155	160
Asp	Lys	Leu	Gln	Ala	His	Gly	Ile	Arg	Leu	His	Ser	Val	Cys	Thr	Leu	165	170	175	
Ser	Lys	Met	Leu	Glu	Ile	Leu	Glu	Gln	Gln	Lys	Lys	Val	Asp	Ala	Glu	180	185	190	
Thr	Val	Gly	Arg	Val	Lys	Arg	Phe	Ile	Gln	Glu	Asn	Val	Phe	Val	Ala	195	200	205	
Ala	Asn	His	Asn	Gly	Ser	Pro	Leu	Ser	Ile	Lys	Glu	Ala	Pro	Lys	Glu	210	215	220	
Leu	Ser	Phe	Gly	Ala	Arg	Ala	Glu	Leu	Pro	Arg	Ile	His	Pro	Val	Ala	225	230	235	240
Ser	Lys	Leu	Leu	Arg	Leu	Met	Gln	Lys	Lys	Glu	Thr	Asn	Leu	Cys	Leu	245	250	255	
Ser	Ala	Asp	Val	Ser	Leu	Ala	Arg	Glu	Leu	Leu	Gln	Leu	Ala	Asp	Ala	260	265	270	
Leu	Gly	Pro	Ser	Ile	Cys	Met	Leu	Lys	Thr	His	Val	Asp	Ile	Leu	Asn	275	280	285	
Asp	Phe	Thr	Leu	Asp	Val	Met	Lys	Glu	Leu	Ile	Thr	Leu	Ala	Lys	Cys	290	295	300	
His	Glu	Phe	Leu	Ile	Phe	Glu	Asp	Arg	Lys	Phe	Ala	Asp	Ile	Gly	Asn	305	310	315	320
Thr	Val	Lys	Lys	Gln	Tyr	Glu	Gly	Gly	Ile	Phe	Lys	Ile	Ala	Ser	Trp	325	330	335	
Ala	Asp	Leu	Val	Asn	Ala	His	Val	Val	Pro	Gly	Ser	Gly	Val	Val	Lys	340	345	350	
Gly	Leu	Gln	Glu	Val	Gly	Leu	Pro	Leu	His	Arg	Gly	Cys	Leu	Leu	Ile	355	360	365	
Ala	Glu	Met	Ser	Ser	Thr	Gly	Ser	Leu	Ala	Thr	Gly	Asp	Tyr	Thr	Arg	370	375	380	
Ala	Ala	Val	Arg	Met	Ala	Glu	Glu	His	Ser	Glu	Phe	Val	Val	Gly	Phe	385	390	395	400

Ile	Ser	Gly	Ser	Arg	Val	Ser	Met	Lys	Pro	Glu	Phe	Leu	His	Leu	Thr
				405					410					415	
Pro	Gly	Val	Gln	Leu	Glu	Ala	Gly	Gly	Asp	Asn	Leu	Gly	Gln	Gln	Tyr
			420					425					430		
Asn	Ser	Pro	Gln	Glu	Val	Ile	Gly	Lys	Arg	Gly	Ser	Asp	Ile	Ile	Ile
		435					440					445			
Val	Gly	Arg	Gly	Ile	Ile	Ser	Ala	Ala	Asp	Arg	Leu	Glu	Ala	Ala	Glu
	450					455					460				
Met	Tyr	Arg	Lys	Ala	Ala	Trp	Glu	Ala	Tyr	Leu	Ser	Arg	Leu	Gly	Val
465					470					475					480

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<210> 234
<211> 86
<212> PRT
<213> Homo sapiens
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<400> 234
Met Tyr Leu Tyr Leu Ile Ser Ser Cys Ile Lys Pro Ile Asn Leu Cys
  1                               5                               10                               15

Tyr Cys Ser Ser Asn Leu Met His Thr Val Ile Ser Cys Tyr Ile Cys
                20                               25                               30

Lys Val Gly Asn Cys Phe Leu Ser Tyr Arg Ser Phe Lys Leu His Phe
          35                               40                               45

Cys Ala Val Glu Thr Lys Val Gly Tyr Ser Leu Cys His Val Asp Val
  50                               55                               60

Gln Phe Leu Lys Leu Phe Tyr Lys Thr Leu Ile Ile Lys Pro Leu Asn
  65                               70                               75                               80

Leu Lys Lys Lys Lys Lys
                85

```

```
<210> 235
<211> 54
<212> PRT
<213> Homo sapiens
```

```
<400> 235
Met Leu Cys Gly Asn Ile Tyr Pro Ile Asp His Pro Ile Leu Met Cys
   1                               10                          15

Leu Trp Leu Ser Asp Gln Leu Gln Asn Asn Cys Val Val Ile Leu Cys
      20                      25                        30

Pro Lys Leu Leu Ile Asn Phe Tyr Leu Gln Ile Glu Lys Glu Gly Pro
    35                     40                       45
```

Cys Lys Glu Asn Gly Lys  
50

<210> 236

<211> 672

<212> PRT

<213> Homo sapiens

<400> 236

Met	Gly	Val	Gly	Arg	Leu	Asp	Met	Tyr	Val	Leu	His	Pro	Pro	Ser	Ala
1				5					10					15	
Gly	Ala	Glu	Arg	Thr	Leu	Ala	Ser	Val	Cys	Ala	Leu	Leu	Val	Trp	His
			20					25					30		
Pro	Ala	Gly	Pro	Gly	Glu	Lys	Val	Val	Arg	Val	Leu	Phe	Pro	Gly	Cys
			35				40					45			
Thr	Pro	Pro	Ala	Cys	Leu	Leu	Asp	Gly	Leu	Val	Arg	Leu	Gln	His	Leu
	50					55					60				
Arg	Phe	Leu	Arg	Glu	Pro	Val	Val	Thr	Pro	Gln	Asp	Leu	Glu	Gly	Pro
	65				70					75					80
Gly	Arg	Ala	Glu	Ser	Lys	Glu	Ser	Val	Gly	Ser	Arg	Asp	Ser	Ser	Lys
				85					90					95	
Arg	Glu	Gly	Leu	Leu	Ala	Thr	His	Pro	Arg	Pro	Gly	Gln	Glu	Arg	Pro
			100					105					110		
Gly	Val	Ala	Arg	Lys	Glu	Pro	Ala	Arg	Ala	Glu	Ala	Pro	Arg	Lys	Thr
		115					120					125			
Glu	Lys	Glu	Ala	Lys	Ala	Pro	Arg	Glu	Leu	Lys	Lys	Asp	Pro	Lys	Pro
	130					135					140				
Ser	Val	Ser	Arg	Thr	Gln	Pro	Arg	Glu	Val	Arg	Arg	Ala	Ala	Ser	Ser
	145				150					155				160	
Val	Pro	Asn	Leu	Lys	Lys	Thr	Asn	Ala	Gln	Ala	Ala	Pro	Lys	Pro	Arg
			165						170					175	
Lys	Ala	Pro	Ser	Thr	Ser	His	Ser	Gly	Phe	Pro	Pro	Val	Ala	Asn	Gly
		180						185					190		
Pro	Arg	Ser	Pro	Pro	Ser	Leu	Arg	Cys	Gly	Glu	Ala	Ser	Pro	Pro	Ser
		195					200					205			
Ala	Ala	Cys	Gly	Ser	Pro	Ala	Ser	Gln	Leu	Val	Ala	Thr	Pro	Ser	Leu
	210					215					220				
Glu	Leu	Gly	Pro	Ile	Pro	Ala	Gly	Glu	Glu	Lys	Ala	Leu	Glu	Leu	Pro
	225				230					235					240
Leu	Ala	Ala	Ser	Ser	Ile	Pro	Arg	Pro	Arg	Thr	Pro	Ser	Pro	Glu	Ser
				245					250					255	

His Arg Ser Pro Ala Glu Gly Ser Glu Arg Leu Ser Leu Ser Pro Leu  
 260 265 270  
 Arg Gly Gly Glu Ala Gly Pro Asp Ala Ser Pro Thr Val Thr Thr Pro  
 275 280 285  
 Thr Val Thr Thr Pro Ser Leu Pro Ala Glu Val Gly Ser Pro His Ser  
 290 295 300  
 Thr Glu Val Asp Glu Ser Leu Ser Val Ser Phe Glu Gln Val Leu Pro  
 305 310 315 320  
 Pro Ser Ala Pro Thr Ser Glu Ala Gly Leu Ser Leu Pro Leu Arg Gly  
 325 330 335  
 Pro Arg Ala Arg Arg Ser Ala Ser Pro His Asp Val Asp Leu Cys Leu  
 340 345 350  
 Val Ser Pro Cys Glu Phe Glu His Arg Lys Ala Val Pro Met Ala Pro  
 355 360 365  
 Ala Pro Ala Ser Pro Gly Ser Ser Asn Asp Ser Ser Ala Arg Ser Gln  
 370 375 380  
 Glu Arg Ala Gly Gly Leu Gly Ala Glu Glu Thr Pro Pro Thr Ser Val  
 385 390 395 400  
 Ser Glu Ser Leu Pro Thr Leu Ser Asp Ser Asp Pro Val Pro Leu Ala  
 405 410 415  
 Pro Gly Ala Ala Asp Ser Asp Glu Asp Thr Glu Gly Phe Gly Val Pro  
 420 425 430  
 Arg His Asp Pro Leu Pro Asp Pro Leu Lys Val Pro Pro Pro Leu Pro  
 435 440 445  
 Asp Pro Ser Ser Ile Cys Met Val Asp Pro Glu Met Leu Pro Pro Lys  
 450 455 460  
 Thr Ala Arg Gln Thr Glu Asn Val Ser Arg Thr Arg Lys Pro Leu Ala  
 465 470 475 480  
 Arg Pro Asn Ser Arg Ala Ala Ala Pro Lys Ala Thr Pro Val Ala Ala  
 485 490 495  
 Ala Lys Thr Lys Gly Leu Ala Gly Gly Asp Arg Ala Ser Arg Pro Leu  
 500 505 510  
 Ser Ala Arg Ser Glu Pro Ser Glu Lys Gly Gly Arg Ala Pro Leu Ser  
 515 520 525  
 Arg Lys Ser Ser Thr Pro Lys Thr Ala Thr Arg Gly Pro Ser Gly Ser  
 530 535 540  
 Ala Ser Ser Arg Pro Gly Val Ser Ala Thr Pro Pro Lys Ser Pro Val  
 545 550 555 560

Tyr	Leu	Asp	Leu	Ala	Tyr	Leu	Pro	Ser	Gly	Ser	Ser	Ala	His	Leu	Val	
				565					570					575		
Asp	Glu	Glu	Phe	Phe	Gln	Arg	Val	Arg	Ala	Leu	Cys	Tyr	Val	Ile	Ser	
				580					585					590		
Gly	Gln	Asp	Gln	Arg	Lys	Glu	Glu	Gly	Met	Arg	Ala	Val	Leu	Asp	Ala	
				595					600					605		
Leu	Leu	Ala	Ser	Lys	Gln	His	Trp	Asp	Arg	Asp	Leu	Gln	Val	Thr	Leu	
				610					615					620		
Ile	Pro	Thr	Phe	Asp	Ser	Val	Ala	Met	His	Thr	Trp	Tyr	Ala	Glu	Thr	
				625					630					635		
His	Ala	Arg	His	Gln	Ala	Leu	Gly	Ile	Thr	Val	Leu	Gly	Ser	Asn	Ser	
				645					650					655		
Met	Val	Ser	Met	Gln	Asp	Asp	Ala	Phe	Pro	Ala	Cys	Lys	Val	Glu	Phe	
				660					665					670		

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<210> 237
<211> 222
<212> PRT
<213> Homo sapiens
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<400> 237																
Met	Asn	Ser	Asn	Val	Glu	Asn	Leu	Pro	Pro	His	Ile	Ile	Arg	Leu	Val	
1				5					10					15		
Tyr	Lys	Glu	Val	Thr	Thr	Leu	Thr	Ala	Asp	Pro	Pro	Asp	Gly	Ile	Lys	
			20					25					30			
Val	Phe	Pro	Asn	Glu	Glu	Asp	Leu	Thr	Asp	Leu	Gln	Val	Thr	Ile	Glu	
		35					40					45				
Gly	Pro	Glu	Gly	Thr	Pro	Tyr	Ala	Gly	Gly	Leu	Phe	Arg	Met	Lys	Leu	
	50					55					60					
Leu	Leu	Gly	Lys	Asp	Phe	Pro	Ala	Ser	Pro	Pro	Lys	Gly	Tyr	Phe	Leu	
65					70					75					80	
Thr	Lys	Ile	Phe	His	Pro	Asn	Val	Gly	Ala	Asn	Gly	Glu	Ile	Cys	Val	
				85					90					95		
Asn	Val	Leu	Lys	Arg	Asp	Trp	Thr	Ala	Glu	Leu	Gly	Ile	Arg	His	Val	
			100					105					110			
Leu	Leu	Thr	Ile	Lys	Cys	Leu	Leu	Ile	His	Pro	Asn	Pro	Glu	Ser	Ala	
		115					120					125				
Leu	Asn	Glu	Glu	Ala	Gly	Arg	Leu	Leu	Leu	Glu	Asn	Tyr	Glu	Glu	Tyr	
	130					135					140					

Ala Ala Arg Ala Arg Leu Leu Thr Glu Ile His Gly Gly Ala Gly Gly  
145 150 155 160

Pro Ser Gly Arg Ala Glu Ala Gly Arg Ala Leu Ala Ser Gly Thr Glu  
165 170 175

Ala Ser Ser Thr Asp Pro Gly Ala Pro Gly Gly Pro Gly Gly Ala Glu  
180 185 190

Gly Thr Met Ala Lys Lys His Ala Gly Glu Arg Asp Lys Lys Leu Ala  
195 200 205

Ala Lys Lys Lys Thr Asp Lys Lys Arg Ala Leu Arg Arg Leu  
210 215 220

<210> 238

<211> 245

<212> PRT

<213> Homo sapiens

<400> 238

Met Ala Val Arg Ala Ser Phe Glu Asn Asn Cys Glu Ile Gly Cys Phe  
1 5 10 15

Ala Lys Leu Thr Asn Thr Tyr Cys Leu Val Ala Ile Gly Gly Ser Glu  
20 25 30

Asn Phe Tyr Ser Val Phe Glu Gly Glu Leu Ser Asp Thr Ile Pro Val  
35 40 45

Val His Ala Ser Ile Ala Gly Cys Arg Ile Ile Gly Arg Met Cys Val  
50 55 60

Gly Asn Arg His Gly Leu Leu Val Pro Asn Asn Thr Thr Asp Gln Glu  
65 70 75 80

Leu Gln His Ile Arg Asn Ser Leu Pro Asp Thr Val Gln Ile Arg Arg  
85 90 95

Val Glu Glu Arg Leu Ser Ala Leu Gly Asn Val Thr Thr Cys Asn Asp  
100 105 110

Tyr Val Ala Leu Val His Pro Asp Leu Asp Arg Glu Thr Glu Glu Ile  
115 120 125

Leu Ala Asp Val Leu Lys Val Glu Val Phe Arg Gln Thr Val Ala Asp  
130 135 140

Gln Val Leu Val Gly Ser Tyr Cys Val Phe Ser Asn Gln Gly Gly Leu  
145 150 155 160

Val His Pro Lys Thr Ser Ile Glu Asp Gln Asp Glu Leu Ser Ser Leu  
165 170 175

Leu Gln Val Pro Leu Val Ala Gly Thr Val Asn Arg Gly Ser Glu Val  
180 185 190



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<210> 239
<211> 117
<212> PRT
<213> Homo sapiens
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<210> 240
<211> 444
<212> PRT
<213> Homo sapiens
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<400> 240
Met Arg Glu Ile Val His Ile Gln Ala Gly Gln Cys Gly Asn Gln Ile
  1             5             10             15

Gly Ala Lys Phe Trp Glu Val Ile Ser Asp Glu His Gly Ile Asp Pro
      20             25             30

Thr Gly Thr Tyr His Gly Asp Ser Asp Leu Gln Leu Asp Arg Ile Ser
    35             40             45

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Val	Tyr	Tyr	Asn	Glu	Ala	Thr	Gly	Gly	Lys	Tyr	Val	Pro	Arg	Ala	Ile	50	55	60	
Leu	Val	Asp	Leu	Glu	Pro	Gly	Thr	Met	Asp	Ser	Val	Arg	Ser	Gly	Pro	65	70	75	80
Phe	Gly	Gln	Ile	Phe	Arg	Pro	Asp	Asn	Phe	Val	Phe	Gly	Gln	Ser	Gly	85	90	95	
Ala	Gly	Asn	Asn	Trp	Ala	Lys	Gly	His	Tyr	Thr	Glu	Gly	Ala	Glu	Leu	100	105	110	
Val	Asp	Ser	Val	Leu	Asp	Val	Val	Arg	Lys	Glu	Ala	Glu	Ser	Cys	Asp	115	120	125	
Cys	Leu	Gln	Gly	Phe	Gln	Leu	Thr	His	Ser	Leu	Gly	Gly	Gly	Thr	Gly	130	135	140	
Ser	Gly	Met	Gly	Thr	Leu	Leu	Ile	Ser	Lys	Ile	Arg	Glu	Glu	Tyr	Pro	145	150	155	160
Asp	Arg	Ile	Met	Asn	Thr	Phe	Ser	Val	Val	Pro	Ser	Pro	Lys	Val	Ser	165	170	175	
Asp	Thr	Val	Val	Glu	Pro	Tyr	Asn	Ala	Thr	Leu	Ser	Val	His	Gln	Leu	180	185	190	
Val	Glu	Asn	Thr	Asp	Glu	Thr	Tyr	Cys	Ile	Asp	Asn	Glu	Ala	Leu	Tyr	195	200	205	
Asp	Ile	Cys	Phe	Arg	Thr	Leu	Lys	Leu	Thr	Thr	Pro	Thr	Tyr	Gly	Asp	210	215	220	
Leu	Asn	His	Leu	Val	Ser	Ala	Thr	Met	Ser	Gly	Val	Thr	Thr	Cys	Leu	225	230	235	240
Arg	Phe	Pro	Gly	Gln	Leu	Asn	Ala	Asp	Leu	Arg	Lys	Leu	Ala	Val	Asn	245	250	255	
Met	Val	Pro	Phe	Pro	Arg	Leu	His	Phe	Phe	Met	Pro	Gly	Phe	Ala	Pro	260	265	270	
Leu	Thr	Ser	Arg	Gly	Ser	Gln	Gln	Tyr	Arg	Ala	Leu	Thr	Val	Pro	Glu	275	280	285	
Leu	Thr	Gln	Gln	Val	Phe	Asp	Ala	Lys	Asn	Met	Met	Ala	Ala	Cys	Asp	290	295	300	
Pro	Arg	His	Gly	Arg	Tyr	Leu	Thr	Val	Ala	Ala	Val	Phe	Arg	Gly	Arg	305	310	315	320
Met	Ser	Met	Lys	Glu	Val	Asp	Glu	Gln	Met	Leu	Asn	Val	Gln	Asn	Lys	325	330	335	
Asn	Ser	Ser	Tyr	Phe	Val	Glu	Trp	Ile	Pro	Asn	Asn	Val	Lys	Thr	Ala	340	345	350	

Val Cys Asp Ile Pro Pro Arg Gly Leu Lys Met Ala Val Thr Phe Ile  
 355 360 365

Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe Lys Arg Ile Ser Glu Gln  
 370 375 380

Phe Thr Ala Met Phe Arg Arg Lys Ala Phe Leu His Trp Tyr Thr Gly  
 385 390 395 400

Glu Gly Met Asp Glu Met Glu Phe Thr Glu Ala Glu Ser Asn Met Asn  
 405 410 415

Asp Leu Val Ser Glu Tyr Gln Gln Tyr Gln Asp Ala Thr Ala Glu Glu  
 420 425 430

Glu Glu Asp Phe Gly Glu Glu Ala Glu Glu Glu Ala  
 435 440

<210> 241

<211> 92

<212> PRT

<213> Homo sapiens

<400> 241

Met Asp Glu Gln Ile Arg Leu Met Asp Gln Asn Leu Lys Cys Leu Ser  
 1 5 10 15

Ala Ala Glu Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu  
 20 25 30

Ile Lys Ile Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu  
 35 40 45

Phe Ala Glu Arg Ser Val Ala Lys Leu Glu Lys Thr Ile Asp Asp Leu  
 50 55 60

Glu Asp Lys Leu Lys Cys Thr Lys Glu Glu His Leu Cys Thr Gln Arg  
 65 70 75 80

Met Leu Asp Gln Thr Leu Leu Asp Leu Asn Glu Met  
 85 90

<210> 242

<211> 453

<212> PRT

<213> Homo sapiens

<400> 242

Met Val Met Gly Ile Thr Asp Val Asp Asp Lys Ile Ile Lys Arg Ala  
 1 5 10 15

Asn Glu Met Asn Ile Ser Pro Ala Ser Leu Ala Ser Leu Tyr Glu Glu  
 20 25 30

Asp Phe Lys Gln Asp Met Ala Ala Leu Lys Val Leu Pro Thr Val  
 35 40 45

Tyr Leu Arg Val Thr Glu Asn Ile Pro Gln Ile Ile Ser Phe Ile Glu  
 50 55 60  
 Gly Ile Ile Ala Ser Trp Glu Arg Leu Phe Asn Gly Lys Arg Gln Cys  
 65 70 75 80  
 Leu Leu Arg Ser Glu Ser Leu Glu Glu Thr Lys Tyr Gly Lys Ile Gly  
 85 90 95  
 Arg Arg Gly Pro Trp Ser Ser Pro Glu Thr Ser Gly Leu Leu Thr Ser  
 100 105 110  
 Arg His Ala Asn Asp Phe Ala Leu Trp Lys Ala Ala Lys Pro Gln Glu  
 115 120 125  
 Val Phe Trp Ala Ser Pro Trp Gly Pro Gly Arg Pro Gly Trp His Ile  
 130 135 140  
 Glu Cys Ser Ala Ile Ala Ser Met Val Phe Gly Ser Gln Leu Asp Ile  
 145 150 155 160  
 His Ser Gly Gly Ile Asp Leu Ala Phe Pro His His Glu Asn Glu Ile  
 165 170 175  
 Ala Gln Cys Glu Val Phe His Gln Cys Glu Gln Trp Gly Asn Tyr Phe  
 180 185 190  
 Leu His Ser Gly His Leu His Ala Lys Gly Lys Glu Glu Lys Met Ser  
 195 200 205  
 Lys Ser Leu Lys Asn Tyr Ile Thr Ile Lys Asp Phe Leu Lys Thr Phe  
 210 215 220  
 Ser Pro Asp Val Phe Arg Phe Phe Cys Leu Arg Ser Ser Tyr Arg Ser  
 225 230 235 240  
 Ala Ile Asp Tyr Ser Asp Ser Ala Met Leu Gln Ala Gln Gln Leu Leu  
 245 250 255  
 Leu Gly Leu Gly Ser Phe Leu Glu Asp Ala Arg Ala Tyr Met Lys Gly  
 260 265 270  
 Gln Leu Ala Cys Gly Ser Val Arg Glu Ala Met Leu Trp Glu Arg Leu  
 275 280 285  
 Ser Ser Thr Lys Arg Ala Val Lys Ala Ala Leu Ala Asp Asp Phe Asp  
 290 295 300  
 Thr Pro Arg Val Val Asp Ala Ile Leu Gly Leu Ala His His Gly Asn  
 305 310 315 320  
 Gly Gln Leu Arg Ala Ser Leu Lys Glu Pro Glu Gly Pro Arg Ser Pro  
 325 330 335  
 Ala Val Phe Gly Ala Ile Ile Ser Tyr Phe Glu Gln Phe Phe Glu Thr  
 340 345 350

Val Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val Ser Gly Asp Gly Ser  
 355 360 365

Glu Ala Thr Leu His Gly Val Val Asp Glu Leu Val Arg Phe Arg Gln  
 370 375 380

Lys Val Arg Gln Phe Ala Leu Ala Met Pro Glu Ala Thr Gly Asp Ala  
 385 390 395 400

Arg Arg Gln Gln Leu Leu Glu Arg Gln Pro Leu Leu Glu Ala Cys Asp  
 405 410 415

Thr Leu Arg Arg Gly Leu Thr Ala His Gly Ile Asn Ile Lys Asp Arg  
 420 425 430

Ser Ser Thr Thr Ser Thr Trp Glu Leu Leu Asp Gln Arg Thr Lys Asp  
 435 440 445

Gln Lys Ser Ala Gly  
 450

<210> 243

<211> 209

<212> PRT

<213> Homo sapiens

<400> 243

Met Lys Glu Leu Ala Glu Glu Glu Pro His Leu Val Glu Gln Phe Gln  
 1 5 10 15

Lys Leu Ser Glu Ala Ala Gly Arg Val Gly Ser Asp Met Thr Ser Gln  
 20 25 30

Gln Glu Phe Thr Ser Cys Leu Lys Glu Thr Leu Ser Gly Leu Ala Lys  
 35 40 45

Asn Ala Thr Asp Leu Gln Asn Ser Ser Met Ser Glu Glu Glu Leu Thr  
 50 55 60

Lys Ala Met Glu Gly Leu Gly Met Asp Glu Gly Asp Gly Glu Gly Asn  
 65 70 75 80

Ile Leu Pro Ile Met Gln Ser Ile Met Gln Asn Leu Leu Ser Lys Asp  
 85 90 95

Val Leu Tyr Pro Ser Leu Lys Glu Ile Thr Glu Lys Tyr Pro Glu Trp  
 100 105 110

Leu Gln Ser His Arg Glu Ser Leu Pro Pro Glu Gln Phe Glu Lys Tyr  
 115 120 125

Gln Glu Gln His Ser Val Met Cys Lys Ile Cys Glu Gln Phe Glu Ala  
 130 135 140

Glu Thr Pro Thr Asp Ser Glu Thr Thr Gln Lys Ala Arg Phe Glu Met  
 145 150 155 160

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<210> 244
<211> 354
<212> PRT
<213> Homo sapiens
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<400>	244																
Met	Arg	Arg	Leu	Met	Ser	Ser	Arg	Asp	Trp	Pro	Arg	Thr	Arg	Thr	Gly		
1				5					10					15			
Thr	Gly	Ile	Leu	Ser	Ser	Gln	Pro	Glu	Glu	Asn	Pro	Tyr	Trp	Trp	Asn		
			20					25					30				
Ala	Asn	Met	Val	Phe	Ile	Pro	Tyr	Cys	Ser	Ser	Asp	Val	Trp	Ser	Gly		
		35					40					45					
Ala	Ser	Ser	Lys	Ser	Glu	Lys	Asn	Glu	Tyr	Ala	Phe	Met	Gly	Ala	Leu		
	50					55					60						
Ile	Ile	Gln	Glu	Val	Val	Arg	Glu	Leu	Leu	Gly	Arg	Gly	Leu	Ser	Gly		
65					70					75					80		
Ala	Lys	Val	Leu	Leu	Leu	Ala	Gly	Ser	Ser	Ala	Gly	Gly	Thr	Gly	Val		
				85					90					95			
Leu	Leu	Asn	Val	Asp	Arg	Val	Ala	Glu	Gln	Leu	Glu	Lys	Leu	Gly	Tyr		
			100					105					110				
Pro	Ala	Ile	Gln	Val	Arg	Gly	Leu	Ala	Asp	Ser	Gly	Trp	Phe	Leu	Asp		
		115					120					125					
Asn	Lys	Gln	Tyr	Arg	His	Thr	Asp	Cys	Val	Asp	Thr	Ile	Thr	Cys	Ala		
	130					135					140						
Pro	Thr	Glu	Ala	Ile	Arg	Arg	Gly	Ile	Arg	Tyr	Trp	Asn	Gly	Val	Val		
145					150					155					160		
Pro	Glu	Arg	Cys	Arg	Arg	Gln	Phe	Gln	Glu	Gly	Glu	Glu	Trp	Asn	Cys		
				165					170					175			
Phe	Phe	Gly	Tyr	Lys	Val	Tyr	Pro	Thr	Leu	Arg	Cys	Pro	Val	Phe	Val		
			180					185					190				
Val	Gln	Trp	Leu	Phe	Asp	Glu	Ala	Gln	Leu	Thr	Val	Asp	Asn	Val	His		
		195					200					205					

Leu Thr Gly Gln Pro Val Gln Glu Gly Leu Arg Leu Tyr Ile Gln Asn  
 210 215 220  
 Leu Gly Arg Glu Leu Arg His Thr Leu Lys Asp Val Pro Ala Ser Phe  
 225 230 235 240  
 Ala Pro Ala Cys Leu Ser His Glu Ile Ile Ile Arg Ser His Trp Thr  
 245 250 255  
 Asp Val Gln Val Lys Gly Thr Ser Leu Pro Arg Ala Leu His Cys Trp  
 260 265 270  
 Asp Arg Ser Leu His Asp Ser His Lys Ala Ser Lys Thr Pro Leu Lys  
 275 280 285  
 Gly Cys Pro Val His Leu Val Asp Ser Cys Pro Trp Pro His Cys Asn  
 290 295 300  
 Pro Ser Cys Pro Thr Val Arg Asp Gln Phe Thr Gly Gln Glu Met Asn  
 305 310 315 320  
 Val Ala Gln Phe Leu Met His Met Gly Phe Asp Met Gln Thr Val Ala  
 325 330 335  
 Gln Pro Gln Gly Leu Glu Pro Ser Glu Leu Leu Gly Met Leu Ser Asn  
 340 345 350

Gly Ser

<210> 245  
 <211> 295  
 <212> PRT  
 <213> Homo sapiens

<400> 245  
 Met Glu Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu Glu Tyr Val Lys  
 1 5 10 15  
 Gly Val Pro Leu Ile Lys Tyr Phe Ala Glu Ala Leu Gly Pro Leu Gln  
 20 25 30  
 Ser Phe Gln Ala Arg Pro Asp Asp Leu Leu Ile Ser Thr Tyr Pro Lys  
 35 40 45  
 Ser Gly Thr Thr Trp Val Ser Gln Ile Leu Asp Met Ile Tyr Gln Gly  
 50 55 60  
 Gly Asp Leu Glu Lys Cys His Arg Ala Pro Ile Phe Met Arg Val Pro  
 65 70 75 80  
 Phe Leu Glu Phe Lys Ala Pro Gly Ile Pro Ser Gly Met Glu Thr Leu  
 85 90 95  
 Lys Asp Thr Pro Ala Pro Arg Leu Leu Lys Thr His Leu Pro Leu Ala  
 100 105 110

Leu Leu Pro Gln Thr Leu Leu Asp Gln Lys Val Lys Val Val Tyr Val  
 115 120 125  
 Ala Arg Asn Ala Lys Asp Val Ala Val Ser Tyr Tyr His Phe Tyr His  
 130 135 140  
 Met Ala Lys Val His Pro Glu Pro Gly Thr Trp Asp Ser Phe Leu Glu  
 145 150 155 160  
 Lys Phe Met Val Gly Glu Val Ser Tyr Gly Ser Trp Tyr Gln His Val  
 165 170 175  
 Gln Glu Trp Trp Glu Leu Ser Arg Thr His Pro Val Leu Tyr Leu Phe  
 180 185 190  
 Tyr Glu Asp Met Lys Glu Asn Pro Lys Arg Glu Ile Gln Lys Ile Leu  
 195 200 205  
 Glu Phe Val Gly His Ser Leu Pro Glu Glu Thr Val Asp Phe Met Val  
 210 215 220  
 Gln His Thr Ser Phe Lys Glu Met Lys Lys Asn Pro Met Thr Asn Tyr  
 225 230 235 240  
 Thr Thr Val Pro Gln Glu Phe Met Asp His Ser Ile Ser Pro Phe Met  
 245 250 255  
 Arg Lys Gly Met Ala Gly Asp Trp Lys Thr Thr Phe Thr Val Ala Gln  
 260 265 270  
 Asn Glu Arg Phe Asp Ala Asp Tyr Ala Glu Lys Met Ala Gly Cys Ser  
 275 280 285  
 Leu Ser Phe Arg Ser Glu Leu  
 290 295  
  
 <210> 246  
 <211> 439  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 246  
 Met Glu Pro Ser Thr Ala Ala Arg Ala Trp Ala Leu Phe Trp Leu Leu  
 1 5 10 15  
 Leu Pro Leu Leu Gly Ala Val Cys Ala Ser Gly Pro Arg Thr Leu Val  
 20 25 30  
 Leu Leu Asp Asn Leu Asn Val Arg Glu Thr His Ser Leu Phe Phe Arg  
 35 40 45  
 Ser Leu Lys Asp Arg Gly Phe Glu Leu Thr Phe Lys Thr Ala Asp Asp  
 50 55 60  
 Pro Ser Leu Ser Leu Ile Lys Tyr Gly Glu Phe Leu Tyr Asp Asn Leu  
 65 70 75 80



Ile	Ile	Phe	Ser	Pro	Ser	Val	Glu	Asp	Phe	Gly	Gly	Asn	Ile	Asn	Val
				85					90					95	
Glu	Thr	Ile	Ser	Ala	Phe	Ile	Asp	Gly	Gly	Gly	Ser	Val	Leu	Val	Ala
			100					105					110		
Ala	Ser	Ser	Asp	Ile	Gly	Asp	Pro	Leu	Arg	Glu	Leu	Gly	Ser	Glu	Cys
		115					120					125			
Gly	Ile	Glu	Phe	Asp	Glu	Glu	Lys	Thr	Ala	Val	Ile	Asp	His	His	Asn
	130					135					140				
Tyr	Asp	Ile	Ser	Asp	Leu	Gly	Gln	His	Thr	Leu	Ile	Val	Ala	Asp	Thr
145					150					155					160
Glu	Asn	Leu	Leu	Lys	Ala	Pro	Thr	Ile	Val	Gly	Lys	Ser	Ser	Leu	Asn
				165					170					175	
Pro	Ile	Leu	Phe	Arg	Gly	Val	Gly	Met	Val	Ala	Asp	Pro	Asp	Asn	Pro
			180					185					190		
Leu	Val	Leu	Asp	Ile	Leu	Thr	Gly	Ser	Ser	Thr	Ser	Tyr	Ser	Phe	Phe
		195					200					205			
Pro	Asp	Lys	Pro	Ile	Thr	Gln	Tyr	Pro	His	Ala	Val	Gly	Lys	Asn	Thr
210						215					220				
Leu	Leu	Ile	Ala	Gly	Leu	Gln	Ala	Arg	Asn	Asn	Ala	Arg	Val	Ile	Phe
225					230					235					240
Ser	Gly	Ser	Leu	Asp	Phe	Phe	Ser	Asp	Ser	Phe	Phe	Asn	Ser	Ala	Val
				245					250					255	
Gln	Lys	Ala	Ala	Pro	Gly	Ser	Gln	Arg	Tyr	Ser	Gln	Thr	Gly	Asn	Tyr
			260					265					270		
Glu	Leu	Ala	Val	Ala	Leu	Ser	Arg	Trp	Val	Phe	Lys	Glu	Glu	Gly	Val
		275					280					285			
Leu	Arg	Val	Gly	Pro	Val	Ser	His	His	Arg	Val	Gly	Glu	Thr	Ala	Pro
	290					295					300				
Pro	Asn	Ala	Tyr	Thr	Val	Thr	Asp	Leu	Val	Glu	Tyr	Ser	Ile	Val	Ile
305					310					315					320
Gln	Gln	Leu	Ser	Asn	Gly	Lys	Trp	Val	Pro	Phe	Asp	Gly	Asp	Asp	Ile
				325					330					335	
Gln	Leu	Glu	Phe	Val	Arg	Ile	Asp	Pro	Phe	Val	Arg	Thr	Phe	Leu	Lys
			340					345					350		
Lys	Lys	Gly	Gly	Lys	Tyr	Ser	Val	Gln	Phe	Lys	Leu	Pro	Asp	Val	Tyr
		355					360					365			
Gly	Val	Phe	Gln	Phe	Lys	Val	Asp	Tyr	Asn	Arg	Leu	Gly	Tyr	Thr	His
	370					375					380				

90

Leu Tyr Ser Ser Thr Gln Val Ser Val Arg Pro Leu Gln His Thr Gln  
385 390 395 400

Tyr Glu Arg Phe Ile Pro Ser Ala Tyr Pro Tyr Tyr Ala Ser Ala Phe  
405 410 415

Ser Met Met Leu Gly Leu Phe Ile Phe Ser Ile Val Phe Leu His Met  
420 425 430

Lys Glu Lys Glu Lys Ser Asp  
435

<210> 247

<211> 56

<212> PRT

<213> Homo sapiens

<400> 247

Met Glu Thr Leu His Thr Trp Gly Ser Lys Val Leu Gly Tyr Ser Trp  
1 5 10 15

Ile Phe Arg Thr Ser Ala Tyr Pro Gln Val Ser Gln Ala Ser Gly Gly  
20 25 30

Glu Ala Ser Asp Pro Trp Pro Thr Cys Tyr Pro Pro Gln Gly Leu Asp  
35 40 45

Leu Ser Ser Arg Glu Gly Thr Glu  
50 55

<210> 248

<211> 46

<212> PRT

<213> Homo sapiens

<400> 248

Met Gly Phe Lys Gly Pro Gly Val Phe Leu Asp Leu Gln Asp Ile Cys  
1 5 10 15

Leu Pro Ser Gly Phe Pro Gly Leu Gly Trp Gly Gly Ile Arg Ser Leu  
20 25 30

Ala Asn Leu Leu Ser Thr Pro Gly Phe Arg Pro Leu Phe Pro  
35 40 45

<210> 249

<211> 61

<212> PRT

<213> Homo sapiens

<400> 249

Ile Gly Thr Val Phe Leu Glu Gly Asn Leu Val Lys Cys Ile Lys Arg  
1 5 10 15

Leu Lys Asn Thr Asp Val Leu Cys Ala Gly Asn Ser Thr Ser Ser Asn  
                   20                  25                  30

Phe Ser Leu Lys Pro Tyr Gln Arg Cys Ile Gln Arg Ile Ile Tyr Lys  
           35                  40                  45

Glu Gly Cys Leu Ile Met Ile Val Ile Ile Ile Asn Asn  
       50                  55                  60

<210> 250

<211> 73

<212> PRT

<213> Homo sapiens

<400> 250

Met Phe Asp Ser Pro Phe Tyr Glu Leu Asn Tyr Phe Ile Arg Val Gly  
   1                  5                  10                  15

Asn Phe Cys Phe Leu Ile Lys Trp Lys Leu Ala Phe Leu Thr Leu Phe  
           20                  25                  30

Leu Leu Leu Phe Tyr Arg Asn Ala Phe Cys Trp Pro Gly Thr Val Ala  
       35                  40                  45

His Pro Cys Asn Pro Ser Thr Val Gly Gly Arg Asp Gly Trp Ile Thr  
       50                  55                  60

Arg Ser Gly Asp Arg Asp His Pro Gly  
   65                  70

<210> 251

<211> 43

<212> PRT

<213> Homo sapiens

<400> 251

Met Leu Phe Val Gly Arg Ala Gln Leu Leu Ile His Val Ile Pro Ala  
   1                  5                  10                  15

Leu Trp Glu Ala Glu Thr Gly Gly Ser Gln Gly Gln Glu Ile Glu Thr  
       20                  25                  30

Ile Leu Ala Asn Ala Leu Lys Leu Arg Leu Cys  
       35                  40

<210> 252

<211> 30

<212> PRT

<213> Homo sapiens

<400> 252

Met Tyr Ile Phe Phe Cys Val Leu Phe Leu Leu Leu Leu Phe Glu  
   1                  5                  10                  15

Thr Gly Ser Cys Ser Val Ala Gln Ala Gly Val Gln Trp His  
                   20                  25                  30

<210> 253  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 253  
 Met Asn Cys Asn Thr Gln Ser Gln Thr Arg Ala Leu Pro Arg Pro Leu  
   1                  5                  10                  15  
 Gly Gly Cys Thr Pro Ser Ser Ser Ala Arg Leu Arg Ser Leu Arg Pro  
                   20                  25                  30  
 Arg Leu Lys Glu Gly Val Ala Gly Asn Pro Gly Asn Leu Ser Glu Val  
                   35                  40                  45  
 Thr Pro His Pro Tyr Thr Pro Ser Val His Pro Arg Leu Phe Leu Leu  
                   50                  55                  60  
 Leu Phe Gly Phe Trp Lys Gly Ile His Leu Gln Ala Ala His Pro Gly  
   65                  70                  75                  80  
 Gly Ala Cys Phe Leu Lys Pro  
                   85

<210> 254  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 254  
 Met Ala Pro Ser Arg Asn Gly Met Val Leu Lys Pro His Phe His Lys  
   1                  5                  10                  15  
 Asp Trp Gln Arg Arg Val Ala Thr Trp Phe Asn Gln Pro Ala Arg Lys  
                   20                  25                  30  
 Ile Arg Arg Arg Lys Ala Arg Gln Ala Lys Ala Arg Arg Ile Ala Pro  
                   35                  40                  45  
 Arg Pro Ala Ser Gly Pro Ile Arg Pro Ile Val Arg Cys Pro Thr Val  
                   50                  55                  60  
 Arg Tyr His Thr Lys Val Arg Ala Gly Arg Gly Phe Ser Leu Glu Glu  
   65                  70                  75                  80  
 Leu Arg Val Ala Gly Ile His Lys Lys Val Ala Arg Thr Ile Gly Ile  
                   85                  90                  95  
 Ser Val Asp Pro Arg Arg Arg Asn Lys Ser Thr Glu Ser Leu Gln Ala  
                   100                  105                  110  
 Asn Val Gln Arg Leu Lys Glu Tyr Arg Ser Lys Leu Ile Leu Phe Pro  
                   115                  120                  125

Arg Lys Pro Ser Ala Pro Lys Lys Gly Asp Ser Ser Ala Glu Glu Leu  
 130 135 140

Lys Leu Ala Thr Gln Leu Thr Gly Pro Val Met Pro Val Arg Asn Val  
 145 150 155 160

Tyr Lys Lys Glu Lys Ala Arg Val Ile Thr Glu Glu Glu Lys Asn Phe  
 165 170 175

Lys Ala Phe Ala Ser Leu Arg Met Ala Arg Ala Asn Ala Arg Leu Phe  
 180 185 190

Gly Ile Arg Ala Lys Arg Ala Lys Glu Ala Ala Glu Gln Asp Val Glu  
 195 200 205

Lys Lys Lys  
 210

<210> 255

<211> 417

<212> PRT

<213> Homo sapiens

<400> 255

Met Ser Leu Ser Asn Lys Leu Thr Leu Asp Lys Leu Asp Val Lys Gly  
 1 5 10 15

Lys Arg Val Val Met Arg Val Asp Phe Asn Val Pro Met Lys Asn Asn  
 20 25 30

Gln Ile Thr Asn Asn Gln Arg Ile Lys Ala Ala Val Pro Ser Ile Lys  
 35 40 45

Phe Cys Leu Asp Asn Gly Ala Lys Ser Val Val Leu Met Ser His Leu  
 50 55 60

Gly Arg Pro Asp Gly Val Pro Met Pro Asp Lys Tyr Ser Leu Glu Pro  
 65 70 75 80

Val Ala Val Glu Leu Lys Ser Leu Leu Gly Lys Asp Val Leu Phe Leu  
 85 90 95

Lys Asp Cys Val Gly Pro Glu Val Glu Lys Ala Cys Ala Asn Pro Ala  
 100 105 110

Ala Gly Ser Val Ile Leu Leu Glu Asn Leu Arg Phe His Val Glu Glu  
 115 120 125

Glu Gly Lys Gly Lys Asp Ala Ser Gly Asn Lys Val Lys Ala Glu Pro  
 130 135 140

Ala Lys Ile Glu Ala Phe Arg Ala Ser Leu Ser Lys Leu Gly Asp Val  
 145 150 155 160

Tyr Val Asn Asp Ala Phe Gly Thr Ala His Arg Ala His Ser Ser Met  
 165 170 175

Val Gly Val Asn Leu Pro Gln Lys Ala Gly Gly Phe Leu Met Lys Lys  
 180 185 190  
 Glu Leu Asn Tyr Phe Ala Lys Ala Leu Glu Ser Pro Glu Arg Pro Phe  
 195 200 205  
 Leu Ala Ile Leu Gly Gly Ala Lys Val Ala Asp Lys Ile Gln Leu Ile  
 210 215 220  
 Asn Asn Met Leu Asp Lys Val Asn Glu Met Ile Ile Gly Gly Gly Met  
 225 230 235 240  
 Ala Phe Thr Phe Leu Lys Val Leu Asn Asn Met Glu Ile Gly Thr Ser  
 245 250 255  
 Leu Phe Asp Glu Glu Gly Ala Lys Ile Val Lys Asp Leu Met Ser Lys  
 260 265 270  
 Ala Glu Lys Asn Gly Val Lys Ile Thr Leu Pro Val Asp Phe Val Thr  
 275 280 285  
 Ala Asp Lys Phe Asp Glu Asn Ala Lys Thr Gly Gln Ala Thr Val Ala  
 290 295 300  
 Ser Gly Ile Pro Ala Gly Trp Met Gly Leu Asp Cys Gly Pro Glu Ser  
 305 310 315 320  
 Ser Lys Lys Tyr Ala Glu Ala Val Thr Arg Ala Lys Gln Ile Val Trp  
 325 330 335  
 Asn Gly Pro Val Gly Val Phe Glu Trp Glu Ala Phe Ala Arg Gly Thr  
 340 345 350  
 Lys Ala Leu Met Asp Glu Val Val Lys Ala Thr Ser Arg Gly Cys Ile  
 355 360 365  
 Thr Ile Ile Gly Gly Gly Asp Thr Ala Thr Cys Cys Ala Lys Trp Asn  
 370 375 380  
 Thr Glu Asp Lys Val Ser His Val Ser Thr Gly Gly Gly Ala Ser Leu  
 385 390 395 400  
 Glu Leu Leu Glu Gly Lys Val Leu Pro Gly Val Asp Ala Leu Ser Asn  
 405 410 415

Ile

<210> 256

<211> 568

<212> PRT

<213> Homo sapiens

<400> 256

Met Val Leu Gly Pro Glu Gln Lys Met Ser Asp Asp Ser Val Ser Gly  
 1 5 10 15

Asp His Gly Glu Ser Ala Ser Leu Gly Asn Ile Asn Pro Ala Tyr Ser  
                   20                                  25                                  30

Asn Pro Ser Leu Ser Gln Ser Pro Gly Asp Ser Glu Glu Tyr Phe Ala  
                   35                                  40                                  45

Thr Tyr Phe Asn Glu Lys Ile Ser Ile Pro Glu Glu Glu Tyr Ser Cys  
                   50                                  55                                  60

Phe Ser Phe Arg Lys Leu Trp Ala Phe Thr Gly Pro Gly Phe Leu Met  
   65                                  70                                  75                                  80

Ser Ile Ala Tyr Leu Asp Pro Gly Asn Ile Glu Ser Asp Leu Gln Ser  
                                   85                                  90                                  95

Gly Ala Val Ala Gly Phe Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr  
                   100                                  105                                  110

Leu Val Gly Leu Leu Leu Gln Arg Leu Ala Ala Arg Leu Gly Val Val  
                   115                                  120                                  125

Thr Gly Leu His Leu Ala Glu Val Cys His Arg Gln Tyr Pro Lys Val  
   130                                  135                                  140

Pro Arg Val Ile Leu Trp Leu Met Val Glu Leu Ala Ile Ile Gly Ser  
   145                                  150                                  155                                  160

Asp Met Gln Glu Val Ile Gly Ser Ala Ile Ala Ile Asn Leu Leu Ser  
                   165                                  170                                  175

Val Gly Arg Ile Pro Leu Trp Gly Gly Val Leu Ile Thr Ile Ala Asp  
                   180                                  185                                  190

Thr Phe Val Phe Leu Phe Leu Asp Lys Tyr Gly Leu Arg Lys Leu Glu  
   195                                  200                                  205

Ala Phe Phe Gly Phe Leu Ile Thr Ile Met Ala Leu Thr Phe Gly Tyr  
   210                                  215                                  220

Glu Tyr Val Thr Val Lys Pro Ser Gln Ser Gln Val Leu Lys Gly Met  
   225                                  230                                  235                                  240

Phe Val Pro Ser Cys Ser Gly Cys Arg Thr Pro Gln Ile Glu Gln Ala  
                   245                                  250                                  255

Val Gly Ile Val Gly Ala Val Ile Met Pro His Asn Met Tyr Leu His  
                   260                                  265                                  270

Ser Ala Leu Val Lys Ser Arg Gln Val Asn Arg Asn Asn Lys Gln Glu  
                   275                                  280                                  285

Val Arg Glu Ala Asn Lys Tyr Phe Phe Ile Glu Ser Cys Ile Ala Leu  
   290                                  295                                  300

Phe Val Ser Phe Ile Ile Asn Val Phe Val Val Ser Val Phe Ala Glu  
   305                                  310                                  315                                  320

Ala Phe Phe Gly Lys Thr Asn Glu Gln Val Val Glu Val Cys Thr Asn  
 325 330 335  
 Thr Ser Ser Pro His Ala Gly Leu Phe Pro Lys Asp Asn Ser Thr Leu  
 340 345 350  
 Ala Val Asp Ile Tyr Lys Gly Gly Val Val Leu Gly Cys Tyr Phe Gly  
 355 360 365  
 Pro Ala Ala Leu Tyr Ile Trp Ala Val Gly Ile Leu Ala Ala Gly Gln  
 370 375 380  
 Ser Ser Thr Met Thr Gly Thr Tyr Ser Gly Gln Phe Val Met Glu Gly  
 385 390 395 400  
 Phe Leu Asn Leu Lys Trp Ser Arg Phe Ala Arg Val Val Leu Thr Arg  
 405 410 415  
 Ser Ile Ala Ile Ile Pro Thr Leu Leu Val Ala Val Phe Gln Asp Val  
 420 425 430  
 Glu His Leu Thr Gly Met Asn Asp Phe Leu Asn Val Leu Gln Ser Leu  
 435 440 445  
 Gln Leu Pro Phe Ala Leu Ile Pro Ile Leu Thr Phe Thr Ser Leu Arg  
 450 455 460  
 Pro Val Met Ser Asp Phe Ala Asn Gly Leu Gly Trp Arg Ile Ala Gly  
 465 470 475 480  
 Gly Ile Leu Val Leu Ile Ile Cys Ser Ile Asn Met Tyr Phe Val Val  
 485 490 495  
 Val Tyr Val Arg Asp Leu Gly His Val Ala Leu Tyr Val Val Ala Ala  
 500 505 510  
 Val Val Ser Val Ala Tyr Leu Gly Phe Val Phe Tyr Leu Gly Trp Gln  
 515 520 525  
 Cys Leu Ile Ala Leu Gly Met Ser Phe Leu Asp Cys Gly His Thr Cys  
 530 535 540  
 His Leu Gly Leu Thr Ala Gln Pro Glu Leu Tyr Leu Leu Asn Thr Met  
 545 550 555 560  
 Asp Ala Asp Ser Leu Val Ser Arg  
 565

&lt;210&gt; 257

&lt;211&gt; 46

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 257

Met Leu Phe Ile His Ala Glu Val Ile Gln Phe Pro Pro Ser Tyr Arg  
 1 5 10 15



Ser Ile Leu Ile His Pro Thr Leu Glu Met Gln His Leu Cys Gly Arg  
                   20                  25                  30

Leu Phe His Lys Pro Pro Arg Leu Leu Arg Leu Gly Arg Tyr  
           35                  40                  45

<210> 258

<211> 36

<212> PRT

<213> Homo sapiens

<400> 258

Met Ala Ser Leu Gln Phe Val Ile Ser Leu Pro Val Cys Ser Leu Lys  
   1                  5                  10                  15

Leu Ile Lys Arg Ser Gly Tyr Ile Glu Leu Leu Tyr Arg Cys Glu Gly  
                   20                  25                  30

Met Asp Lys Ser  
           35

<210> 259

<211> 898

<212> PRT

<213> Homo sapiens

<400> 259

Met Ser Val Thr Glu Glu Asp Leu Cys His His Met Lys Val Val Val  
   1                  5                  10                  15

Arg Val Arg Pro Glu Asn Thr Lys Glu Lys Ala Ala Gly Phe His Lys  
                   20                  25                  30

Val Val His Val Val Asp Lys His Ile Leu Val Phe Asp Pro Lys Gln  
           35                  40                  45

Glu Glu Val Ser Phe Phe His Gly Lys Lys Thr Thr Asn Gln Asn Val  
   50                  55                  60

Ile Lys Lys Gln Asn Lys Asp Leu Lys Phe Val Phe Asp Ala Val Phe  
   65                  70                  75                  80

Asp Glu Thr Ser Thr Gln Ser Glu Val Phe Glu His Thr Thr Lys Pro  
                   85                  90                  95

Ile Leu Arg Ser Phe Leu Asn Gly Tyr Asn Cys Thr Val Leu Ala Tyr  
           100                  105                  110

Gly Ala Thr Gly Ala Gly Lys Thr His Thr Met Leu Gly Ser Ala Asp  
   115                  120                  125

Glu Pro Gly Val Met Tyr Leu Thr Met Leu His Leu Tyr Lys Cys Met  
   130                  135                  140

Asp Glu Ile Lys Glu Glu Lys Ile Cys Ser Thr Ala Val Ser Tyr Leu  
   145                  150                  155                  160

Glu Val Tyr Asn Glu Gln Ile Arg Asp Leu Leu Val Asn Ser Gly Pro  
 165 170 175  
 Leu Ala Val Arg Glu Asp Thr Gln Lys Gly Val Val Val His Gly Leu  
 180 185 190  
 Thr Leu His Gln Pro Lys Ser Ser Glu Glu Ile Leu His Leu Leu Asp  
 195 200 205  
 Asn Gly Asn Lys Asn Arg Thr Gln His Pro Thr Asp Met Asn Ala Thr  
 210 215 220  
 Ser Ser Arg Ser His Ala Val Phe Gln Ile Tyr Leu Arg Gln Gln Asp  
 225 230 235 240  
 Lys Thr Ala Ser Ile Asn Gln Asn Val Arg Ile Ala Lys Met Ser Leu  
 245 250 255  
 Ile Asp Leu Ala Gly Ser Glu Arg Ala Ser Thr Ser Gly Ala Lys Gly  
 260 265 270  
 Thr Arg Phe Val Glu Gly Thr Asn Ile Asn Arg Ser Leu Leu Ala Leu  
 275 280 285  
 Gly Asn Val Ile Asn Ala Leu Ala Asp Ser Lys Arg Lys Asn Gln His  
 290 295 300  
 Ile Pro Tyr Arg Asn Ser Lys Leu Thr Arg Leu Leu Lys Asp Ser Leu  
 305 310 315 320  
 Gly Gly Asn Cys Gln Thr Ile Met Ile Ala Ala Val Ser Pro Ser Ser  
 325 330 335  
 Val Phe Tyr Asp Asp Thr Tyr Asn Thr Leu Lys Tyr Ala Asn Arg Ala  
 340 345 350  
 Lys Asp Ile Lys Ser Ser Leu Lys Ser Asn Val Leu Asn Val Asn Asn  
 355 360 365  
 His Ile Thr Gln Tyr Val Lys Ile Cys Asn Glu Gln Lys Ala Glu Ile  
 370 375 380  
 Leu Leu Leu Lys Glu Lys Leu Lys Ala Tyr Glu Glu Gln Lys Ala Phe  
 385 390 395 400  
 Thr Asn Glu Asn Asp Gln Ala Lys Leu Met Ile Ser Asn Pro Gln Glu  
 405 410 415  
 Lys Glu Ile Glu Arg Phe Gln Glu Ile Leu Asn Cys Leu Phe Gln Asn  
 420 425 430  
 Arg Glu Glu Ile Arg Gln Glu Tyr Leu Lys Leu Glu Met Leu Leu Lys  
 435 440 445  
 Glu Asn Glu Leu Lys Ser Phe Tyr Gln Gln Gln Cys His Lys Gln Ile  
 450 455 460

Glu	Met	Met	Cys	Ser	Glu	Asp	Lys	Val	Glu	Lys	Ala	Thr	Gly	Lys	Arg	465	470	475	480
Asp	His	Arg	Leu	Ala	Met	Leu	Lys	Thr	Arg	Arg	Ser	Tyr	Leu	Glu	Lys	485	490		495
Arg	Arg	Glu	Glu	Glu	Leu	Lys	Gln	Phe	Asp	Glu	Asn	Thr	Asn	Trp	Leu	500	505		510
His	Arg	Val	Glu	Lys	Glu	Met	Gly	Leu	Leu	Ser	Gln	Asn	Gly	His	Ile	515	520		525
Pro	Lys	Glu	Leu	Lys	Lys	Asp	Leu	His	Cys	His	His	Leu	His	Leu	Gln	530	535		540
Asn	Lys	Asp	Leu	Lys	Ala	Gln	Ile	Arg	His	Met	Met	Asp	Leu	Ala	Cys	545	550	555	560
Leu	Gln	Glu	Gln	Gln	His	Arg	Gln	Thr	Glu	Ala	Val	Leu	Asn	Ala	Leu	565	570		575
Leu	Pro	Thr	Leu	Arg	Lys	Gln	Tyr	Cys	Thr	Leu	Lys	Glu	Ala	Gly	Leu	580	585		590
Ser	Asn	Ala	Ala	Phe	Glu	Ser	Asp	Phe	Lys	Glu	Ile	Glu	His	Leu	Val	595	600		605
Glu	Arg	Lys	Lys	Val	Val	Val	Trp	Ala	Asp	Gln	Thr	Gly	Glu	Gln	Pro	610	615		620
Lys	Gln	Asn	Asp	Leu	Pro	Gly	Ile	Ser	Val	Leu	Met	Thr	Phe	Ser	Gln	625	630	635	640
Leu	Gly	Pro	Val	Gln	Pro	Ile	Pro	Cys	Cys	Ser	Ser	Ser	Gly	Gly	Thr	645	650		655
Asn	Leu	Val	Lys	Ile	Pro	Thr	Glu	Lys	Arg	Thr	Arg	Arg	Lys	Leu	Met	660	665		670
Pro	Ser	Pro	Leu	Lys	Gly	Gln	His	Thr	Leu	Lys	Ser	Pro	Pro	Ser	Gln	675	680		685
Ser	Val	Gln	Leu	Asn	Asp	Ser	Leu	Ser	Lys	Glu	Leu	Gln	Pro	Ile	Val	690	695	700	
Tyr	Thr	Pro	Glu	Asp	Cys	Arg	Lys	Ala	Phe	Gln	Asn	Pro	Ser	Thr	Val	705	710	715	720
Thr	Leu	Met	Lys	Pro	Ser	Ser	Phe	Thr	Thr	Ser	Phe	Gln	Ala	Ile	Ser	725	730		735
Ser	Asn	Ile	Asn	Ser	Asp	Asn	Cys	Leu	Lys	Met	Leu	Cys	Glu	Val	Ala	740	745		750
Ile	Pro	His	Asn	Arg	Arg	Lys	Glu	Cys	Gly	Gln	Glu	Asp	Leu	Asp	Ser	755	760		765

100

Thr Phe Thr Ile Cys Glu Asp Ile Lys Ser Ser Lys Cys Lys Leu Pro  
770 775 780

Glu Gln Glu Ser Leu Pro Asn Asp Asn Lys Asp Ile Leu Gln Arg Leu  
785 790 795 800

Asp Pro Ser Ser Phe Ser Thr Lys His Ser Met Pro Val Pro Ser Met  
805 810 815

Val Pro Ser Tyr Met Ala Met Thr Thr Ala Ala Lys Arg Lys Arg Lys  
820 825 830

Leu Thr Ser Ser Thr Ser Asn Ser Ser Leu Thr Ala Asp Val Asn Ser  
835 840 845

Gly Phe Ala Lys Arg Val Arg Gln Asp Asn Ser Ser Glu Lys His Leu  
850 855 860

Gln Glu Asn Lys Pro Thr Met Glu His Lys Arg Asn Ile Cys Lys Ile  
865 870 875 880

Asn Pro Ser Met Val Arg Lys Phe Gly Arg Asn Ile Ser Lys Gly Asn  
885 890 895

Leu Arg

<210> 260

<211> 71

<212> PRT

<213> Homo sapiens

<400> 260

Met Ser Lys Asp Arg Ala Asn Met Gln His Arg Tyr Ile Glu Leu Phe  
1 5 10 15

Leu Asn Ser Thr Thr Gly Ala Ser Asn Gly Ala Tyr Ser Ser Gln Val  
20 25 30

Met Gln Gly Met Gly Val Ser Ala Ala Gln Ala Thr Tyr Ser Gly Leu  
35 40 45

Glu Ser Gln Ser Val Ser Gly Cys Tyr Gly Ala Gly Tyr Ser Gly Gln  
50 55 60

Asn Ser Met Gly Gly Tyr Asp  
65 70

<210> 261

<211> 592

<212> PRT

<213> Homo sapiens

<400> 261

Met Ala Pro Gly Gln Leu Ala Leu Phe Ser Val Ser Asp Lys Thr Gly  
1 5 10 15

Leu Val Glu Phe Ala Arg Asn Leu Thr Ala Leu Gly Leu Asn Leu Val  
                   20                                  25                                  30

Ala Ser Gly Gly Thr Ala Lys Ala Leu Arg Asp Ala Gly Leu Ala Val  
                   35                                  40                                  45

Arg Asp Val Ser Glu Leu Thr Gly Phe Pro Glu Met Leu Gly Gly Arg  
                   50                                  55                                  60

Val Lys Thr Leu His Pro Ala Val His Ala Gly Ile Leu Ala Arg Asn  
                   65                                  70                                  75                                  80

Ile Pro Glu Asp Asn Ala Asp Met Ala Arg Leu Asp Phe Asn Leu Ile  
                                   85                                  90                                  95

Arg Val Val Ala Cys Asn Leu Tyr Pro Phe Val Lys Thr Val Ala Ser  
                   100                                  105                                  110

Pro Gly Val Thr Val Glu Glu Ala Val Glu Gln Ile Asp Ile Gly Gly  
                   115                                  120                                  125

Val Thr Leu Leu Arg Ala Ala Ala Lys Asn His Ala Arg Val Thr Val  
                   130                                  135                                  140

Val Cys Glu Pro Glu Asp Tyr Val Val Val Ser Thr Glu Met Gln Ser  
                   145                                  150                                  155                                  160

Ser Glu Ser Lys Asp Thr Ser Leu Glu Thr Arg Arg Gln Leu Ala Leu  
                                   165                                  170                                  175

Lys Ala Phe Thr His Thr Ala Gln Tyr Asp Glu Ala Ile Ser Asp Tyr  
                   180                                  185                                  190

Phe Arg Lys Gln Tyr Ser Lys Gly Val Ser Gln Met Pro Leu Arg Tyr  
                   195                                  200                                  205

Gly Met Asn Pro His Gln Thr Pro Ala Gln Leu Tyr Thr Leu Gln Pro  
                   210                                  215                                  220

Lys Leu Pro Ile Thr Val Leu Asn Gly Ala Pro Gly Phe Ile Asn Leu  
                   225                                  230                                  235                                  240

Cys Asp Ala Leu Asn Ala Trp Gln Leu Val Lys Glu Leu Lys Glu Ala  
                                   245                                  250                                  255

Leu Gly Ile Pro Ala Ala Ala Ser Phe Lys His Val Ser Pro Ala Gly  
                   260                                  265                                  270

Ala Ala Val Gly Ile Pro Leu Ser Glu Asp Glu Ala Lys Val Cys Met  
                   275                                  280                                  285

Val Tyr Asp Leu Tyr Lys Thr Leu Thr Pro Ile Ser Ala Ala Tyr Ala  
                   290                                  295                                  300

Arg Ala Arg Gly Ala Asp Arg Met Ser Ser Phe Gly Asp Phe Val Ala  
                   305                                  310                                  315                                  320

Leu	Ser	Asp	Val	Cys	Asp	Val	Pro	Thr	Ala	Lys	Ile	Ile	Ser	Arg	Glu	325	330	335
Val	Ser	Asp	Gly	Ile	Ile	Ala	Pro	Gly	Tyr	Glu	Glu	Glu	Ala	Leu	Thr	340	345	350
Ile	Leu	Ser	Lys	Lys	Lys	Asn	Gly	Asn	Tyr	Cys	Val	Leu	Gln	Met	Asp	355	360	365
Gln	Ser	Tyr	Lys	Pro	Asp	Glu	Asn	Glu	Val	Arg	Thr	Leu	Phe	Gly	Leu	370	375	380
His	Leu	Ser	Gln	Lys	Arg	Asn	Asn	Gly	Val	Val	Asp	Lys	Ser	Leu	Phe	385	390	395
Ser	Asn	Val	Val	Thr	Lys	Asn	Lys	Asp	Leu	Pro	Glu	Ser	Ala	Leu	Arg	405	410	415
Asp	Leu	Ile	Val	Ala	Thr	Ile	Ala	Val	Lys	Tyr	Thr	Gln	Ser	Asn	Ser	420	425	430
Val	Cys	Tyr	Ala	Lys	Asn	Gly	Gln	Val	Ile	Gly	Ile	Gly	Ala	Gly	Gln	435	440	445
Gln	Ser	Arg	Ile	His	Cys	Thr	Arg	Leu	Ala	Gly	Asp	Lys	Ala	Asn	Tyr	450	455	460
Trp	Trp	Leu	Arg	His	His	Pro	Gln	Val	Leu	Ser	Met	Lys	Phe	Lys	Thr	465	470	475
Gly	Val	Lys	Arg	Ala	Glu	Ile	Ser	Asn	Ala	Ile	Asp	Gln	Tyr	Val	Thr	485	490	495
Gly	Thr	Ile	Gly	Glu	Asp	Glu	Asp	Leu	Ile	Lys	Trp	Lys	Ala	Leu	Phe	500	505	510
Glu	Glu	Val	Pro	Glu	Leu	Leu	Thr	Glu	Ala	Glu	Lys	Lys	Glu	Trp	Val	515	520	525
Glu	Lys	Leu	Thr	Glu	Val	Ser	Ile	Ser	Ser	Asp	Ala	Phe	Phe	Pro	Phe	530	535	540
Arg	Asp	Asn	Val	Asp	Arg	Ala	Lys	Arg	Ser	Gly	Val	Ala	Tyr	Ile	Ala	545	550	555
Ala	Pro	Ser	Gly	Ser	Ala	Ala	Asp	Lys	Val	Val	Ile	Glu	Ala	Cys	Asp	565	570	575
Glu	Leu	Gly	Ile	Ile	Leu	Ala	His	Thr	Asn	Leu	Arg	Leu	Phe	His	His	580	585	590

<210> 262  
 <211> 62  
 <212> PRT  
 <213> Homo sapiens

<400> 262  
 Met Phe Glu Leu Leu Pro Asn Cys Met Leu Phe Ile Leu Asn Ser Pro  
   1                  5                  10                  15  
 Ser Asp Arg Ile Pro Arg Pro Arg Glu Val Lys Lys Thr Ser Pro Arg  
                   20                  25                  30  
 Ser Ile Thr Leu Leu Leu Thr Ala Pro Asn Leu Leu Asp Ser Lys Ser  
                   35                  40                  45  
 Asn Gly Phe Pro Gly Thr Met Met Leu Val Asp Leu Lys Lys  
           50                  55                  60

<210> 263  
 <211> 43  
 <212> PRT  
 <213> Homo sapiens

<400> 263  
 Met Thr Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr Glu Gln Pro Asp  
   1                  5                  10                  15  
 Ile His Thr Pro Arg Arg Gln Leu Glu Val Pro Pro Gly Asn Gln Asn  
                   20                  25                  30  
 His Pro Gln Arg Arg Pro Pro Asp Thr Asp Ile  
           35                  40

<210> 264  
 <211> 303  
 <212> PRT  
 <213> Homo sapiens

<400> 264  
 Met Lys Pro Thr Gly Thr Asp Pro Arg Ile Leu Ser Ile Ala Ala Glu  
   1                  5                  10                  15  
 Val Ala Lys Ser Pro Glu Gln Asn Val Pro Val Ile Leu Leu Lys Leu  
                   20                  25                  30  
 Lys Glu Ile Ile Asn Ile Thr Pro Leu Gly Ser Ser Glu Leu Lys Lys  
           35                  40                  45  
 Ile Lys Gln Asp Ile Tyr Cys Tyr Asp Leu Ile Gln Tyr Cys Leu Leu  
           50                  55                  60  
 Val Leu Ser Gln Asp Tyr Ser Arg Ile Gln Gly Gly Trp Thr Thr Ile  
           65                  70                  75                  80  
 Ser Gln Leu Thr Gln Ile Leu Ser His Cys Cys Val Gly Leu Glu Pro  
                   85                  90                  95

Gly Glu Asp Ala Glu Glu Phe Tyr Asn Glu Leu Leu Pro Ser Ala Ala  
 100 105 110  
 Glu Asn Phe Leu Val Leu Gly Arg Gln Leu Gln Thr Cys Phe Ile Asn  
 115 120 125  
 Ala Ala Lys Ala Glu Glu Lys Asp Glu Leu Leu His Phe Phe Gln Ile  
 130 135 140  
 Val Thr Asp Ser Leu Phe Trp Leu Leu Gly Gly His Val Glu Leu Ile  
 145 150 155 160  
 Gln Asn Val Leu Gln Ser Asp His Phe Leu His Leu Leu Gln Ala Asp  
 165 170 175  
 Asn Val Gln Ile Gly Ser Ala Val Met Met Met Leu Gln Asn Ile Leu  
 180 185 190  
 Gln Ile Asn Ser Gly Asp Leu Leu Arg Ile Gly Arg Lys Ala Leu Tyr  
 195 200 205  
 Ser Ile Leu Asp Glu Val Ile Phe Lys Leu Phe Ser Thr Pro Ser Pro  
 210 215 220  
 Val Ile Arg Ser Thr Ala Thr Lys Leu Leu Leu Leu Met Ala Glu Ser  
 225 230 235 240  
 His Gln Glu Ile Leu Ile Leu Leu Arg Gln Ser Thr Cys Tyr Lys Gly  
 245 250 255  
 Leu Arg Arg Leu Leu Ser Lys Gln Glu Thr Gly Thr Glu Phe Ser Gln  
 260 265 270  
 Glu Leu Arg Gln Leu Val Gly Leu Leu Ser Pro Met Val Tyr Gln Glu  
 275 280 285  
 Val Glu Glu Gln Ile Gln Thr Ile Lys Asp Val Ala Gly Asp Lys  
 290 295 300

<210> 265  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 265  
 Met Leu Leu Glu Ile Asn Arg Gln Lys Glu Glu Glu Asp Leu Lys Leu  
 1 5 10 15  
 Gln Leu Gln Leu Gln Arg Gln Arg Ala Met Arg Leu Ser Arg Glu Leu  
 20 25 30  
 Gln Leu Ser Met Leu Glu Ile Val His Pro Gly Gln Val Glu Lys His  
 35 40 45  
 Tyr Arg Glu Met Glu Glu Lys Ser Ala Leu Ile Ile Gln Lys His Trp  
 50 55 60



Arg Gly Tyr Arg Glu Arg Lys Asn Phe His Gln Gln Arg Gln Ser Leu  
 65 70 75 80  
 Ile Glu Tyr Lys Ala Ala Val Thr Leu Gln Arg Ala Ala Leu Lys Phe  
 85 90 95  
 Leu Ala Lys Tyr Arg Lys Lys Lys Lys Leu Phe Ala Pro Trp Arg Gly  
 100 105 110  
 Leu Gln Glu Leu Thr Asp Ala Arg Arg Val Glu Leu Lys Lys Arg Val  
 115 120 125  
 Asp Asp Tyr Val Arg Arg His Leu Gly Ser Pro Met Ser Asp Val Val  
 130 135 140  
 Ser Arg Glu Leu His Ala Gln Ala Gln Glu Arg Leu Gln His Tyr Phe  
 145 150 155 160  
 Met Gly Arg Ala Leu Glu Glu Arg Ala Gln Gln His Arg Glu Ala Leu  
 165 170 175  
 Ile Ala Gln Ile Ser Thr Asn Val Glu Gln Leu Met Lys Ala Pro Ser  
 180 185 190  
 Leu Lys Glu Ala Glu Gly Lys Glu Pro Glu Leu Phe Leu Ser Arg Ser  
 195 200 205  
 Arg Pro Val Ala Ala Lys Ala Lys Gln Ala His Leu Thr Thr Leu Lys  
 210 215 220  
 His Ile Gln Ala Pro Trp Trp Lys Lys Leu Gly Glu Glu Ser Gly Asp  
 225 230 235 240  
 Glu Ile Asp Val Pro Lys Asp Glu Leu Ser Ile Glu Leu Glu Asn Leu  
 245 250 255  
 Phe Ile Gly Gly Thr Lys Pro Pro  
 260

&lt;210&gt; 266

&lt;211&gt; 248

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 266

Met Ser Gly Gly Gly Val Ile Arg Gly Pro Ala Gly Asn Asn Asp Cys  
 1 5 10 15  
 Arg Ile Tyr Val Gly Asn Leu Pro Pro Asp Ile Arg Thr Lys Asp Ile  
 20 25 30  
 Glu Asp Val Phe Tyr Lys Tyr Gly Ala Ile Arg Asp Ile Asp Leu Lys  
 35 40 45  
 Asn Arg Arg Gly Gly Pro Pro Phe Ala Phe Val Glu Phe Glu Asp Pro  
 50 55 60

Arg Asp Ala Glu Asp Ala Val Tyr Gly Arg Asp Gly Tyr Asp Tyr Asp  
 65 70 75 80  
 Gly Tyr Arg Leu Arg Val Glu Phe Pro Arg Ser Gly Arg Gly Thr Gly  
 85 90 95  
 Arg Gly Gly Gly Gly Gly Gly Gly Gly Gly Ala Pro Arg Gly Arg Tyr  
 100 105 110  
 Gly Pro Pro Ser Arg Arg Ser Glu Asn Arg Val Val Val Ser Gly Leu  
 115 120 125  
 Pro Pro Ser Gly Ser Trp Gln Asp Leu Lys Asp His Met Arg Glu Ala  
 130 135 140  
 Gly Asp Val Cys Tyr Ala Asp Val Tyr Arg Asp Gly Thr Gly Val Val  
 145 150 155 160  
 Glu Phe Val Arg Lys Glu Asp Met Thr Tyr Ala Val Arg Lys Leu Asp  
 165 170 175  
 Asn Thr Lys Phe Arg Ser His Glu Gly Glu Thr Ala Tyr Ile Arg Val  
 180 185 190  
 Lys Val Asp Gly Pro Arg Ser Pro Ser Tyr Gly Arg Ser Arg Ser Arg  
 195 200 205  
 Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg Ser Asn Ser Arg Ser Arg  
 210 215 220  
 Ser Tyr Ser Pro Arg Arg Ser Arg Gly Ser Pro Arg Tyr Ser Pro Arg  
 225 230 235 240  
 His Ser Arg Ser Arg Ser Arg Thr  
 245

<210> 267  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 267  
 Met Pro Val Ala Gly Ser Glu Leu Pro Arg Arg Pro Leu Pro Pro Ala  
 1 5 10 15  
 Ala Gln Glu Arg Asp Ala Glu Pro Arg Pro Pro His Gly Glu Leu Gln  
 20 25 30  
 Tyr Leu Gly Gln Ile Gln His Ile Leu Arg Cys Gly Val Arg Lys Asp  
 35 40 45  
 Asp Arg Thr Gly Thr Gly Thr Leu Ser Val Phe Gly Met Gln Ala Arg  
 50 55 60  
 Tyr Ser Leu Arg Asp Glu Phe Pro Leu Leu Thr Thr Lys Arg Val Phe  
 65 70 75 80

Trp	Lys	Gly	Val	Leu	Glu	Glu	Leu	Leu	Trp	Phe	Ile	Lys	Gly	Ser	Thr
				85				90				95			
Asn	Ala	Lys	Glu	Leu	Ser	Ser	Lys	Gly	Val	Lys	Ile	Trp	Asp	Ala	Asn
				100				105				110			
Gly	Ser	Arg	Asp	Phe	Leu	Asp	Ser	Leu	Gly	Phe	Ser	Thr	Arg	Glu	Glu
				115				120				125			
Gly	Asp	Leu	Gly	Pro	Val	Tyr	Gly	Phe	Gln	Trp	Arg	His	Phe	Gly	Ala
				130				135				140			
Glu	Tyr	Arg	Asp	Met	Glu	Ser	Asp	Tyr	Ser	Gly	Gln	Gly	Val	Asp	Gln
				145				150				155			
Leu	Gln	Arg	Val	Ile	Asp	Thr	Ile	Lys	Thr	Asn	Pro	Asp	Asp	Arg	Arg
				165				170				175			
Ile	Ile	Met	Cys	Ala	Trp	Asn	Pro	Arg	Asp	Leu	Pro	Leu	Met	Ala	Leu
				180				185				190			
Pro	Pro	Cys	His	Ala	Leu	Cys	Gln	Phe	Tyr	Val	Val	Asn	Ser	Glu	Leu
				195				200				205			
Ser	Cys	Gln	Leu	Tyr	Gln	Arg	Ser	Gly	Asp	Met	Gly	Leu	Gly	Val	Pro
				210				215				220			
Phe	Asn	Ile	Ala	Ser	Tyr	Ala	Leu	Leu	Thr	Tyr	Met	Ile	Ala	His	Ile
				225				230				235			
Thr	Gly	Leu	Lys	Pro	Gly	Asp	Phe	Ile	His	Thr	Leu	Gly	Asp	Ala	His
				245				250				255			
Ile	Tyr	Leu	Asn	His	Ile	Glu	Pro	Leu	Lys	Ile	Gln	Leu	Gln	Arg	Glu
				260				265				270			
Pro	Arg	Pro	Phe	Pro	Lys	Leu	Arg	Ile	Leu	Arg	Lys	Val	Glu	Lys	Ile
				275				280				285			
Asp	Asp	Phe	Lys	Ala	Glu	Asp	Phe	Gln	Ile	Glu	Gly	Tyr	Asn	Pro	His
				290				295				300			
Pro	Thr	Ile	Lys	Met	Glu	Met	Ala	Val							
				305				310							

```
<210> 268
<211> 511
<212> PRT
<213> Homo sapiens
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<400> 268
Met Ala Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu
  1             5             10             15

Asn Lys Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln
      20             25             30

```

Ile Leu Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser  
 35 40 45  
 Gly Gly Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu  
 50 55 60  
 Lys Leu Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys  
 65 70 75 80  
 Ser Ser Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu  
 85 90 95  
 Gly Leu His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu  
 100 105 110  
 Trp Thr Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met  
 115 120 125  
 Glu Gly Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp Ile  
 130 135 140  
 Asn Val Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn  
 145 150 155 160  
 Asn Tyr Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala  
 165 170 175  
 Leu Val Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu  
 180 185 190  
 Pro Ala Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala  
 195 200 205  
 Glu Met Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val  
 210 215 220  
 Val Lys Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr  
 225 230 235 240  
 Val Gly Leu Ile Arg Asn Leu Ala Leu Cys Pro Ala Asn His Ala Pro  
 245 250 255  
 Leu Arg Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg  
 260 265 270  
 Ala His Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln  
 275 280 285  
 Gln Phe Val Glu Gly Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr  
 290 295 300  
 Gly Ala Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile  
 305 310 315 320  
 Arg Gly Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro  
 325 330 335

Ile Glu Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala  
 340 345 350  
 Gln Asp Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala  
 355 360 365  
 Pro Leu Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr  
 370 375 380  
 Ala Ala Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr  
 385 390 395 400  
 Lys Lys Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu  
 405 410 415  
 Pro Met Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala  
 420 425 430  
 Gln Gly Glu Pro Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser  
 435 440 445  
 Phe His Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met  
 450 455 460  
 Met Glu His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val  
 465 470 475 480  
 Asp Gly Leu Pro Asp Leu Gly His Ala Gln Asp Leu Met Asp Gly Leu  
 485 490 495  
 Pro Pro Gly Asp Ser Asn Gln Leu Ala Trp Phe Asp Thr Asp Leu  
 500 505 510

<210> 269  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 269  
 Met Phe Asp Val Thr Ser Arg Val Thr Tyr Lys Asn Val Pro Asn Trp  
 1 5 10 15  
 His Arg Asp Leu Val Arg Val Cys Glu Asn Ile Pro Ile Val Leu Cys  
 20 25 30  
 Gly Asn Lys Val Asp Ile Lys Asp Arg Lys Val Lys Ala Lys Ser Ile  
 35 40 45  
 Val Phe His Arg Lys Lys Asn Leu Gln Tyr Tyr Asp Ile Ser Ala Lys  
 50 55 60  
 Ser Asn Tyr Asn Phe Glu Lys Pro Phe Leu Trp Leu Ala Arg Lys Leu  
 65 70 75 80  
 Ile Gly Asp Pro Asn Leu Glu Phe Val Ala Met Pro Ala Leu Ala Pro  
 85 90 95

110

Pro Glu Val Val Met Asp Pro Ala Leu Ala Ala Gln Tyr Glu His Asp  
100 105 110

Leu Glu Val Ala Gln Thr Thr Ala Leu Pro Asp Glu Asp Asp Asp Leu  
115 120 125

<210> 270

<211> 506

<212> PRT

<213> Homo sapiens

<400> 270

Met Glu Asp His Gln His Val Pro Ile Asp Ile Gln Thr Ser Lys Leu  
1 5 10 15

Leu Asp Trp Leu Val Asp Arg Arg His Cys Ser Leu Lys Trp Gln Ser  
20 25 30

Leu Val Leu Thr Ile Arg Glu Lys Ile Asn Ala Ala Ile Gln Asp Met  
35 40 45

Pro Glu Ser Glu Glu Ile Ala Gln Leu Leu Ser Gly Ser Tyr Ile His  
50 55 60

Tyr Phe His Cys Leu Arg Ile Leu Asp Leu Leu Lys Gly Thr Glu Ala  
65 70 75 80

Ser Thr Lys Asn Ile Phe Gly Arg Tyr Ser Ser Gln Arg Met Lys Asp  
85 90 95

Trp Gln Glu Ile Ile Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu Val  
100 105 110

Glu Leu Ser Ser Leu Leu Val Arg Asn Val Asn Tyr Glu Ile Pro Ser  
115 120 125

Leu Lys Lys Gln Ile Ala Lys Cys Gln Gln Leu Gln Gln Glu Tyr Ser  
130 135 140

Arg Lys Glu Glu Glu Cys Gln Ala Gly Ala Ala Glu Met Arg Glu Gln  
145 150 155 160

Phe Tyr His Ser Cys Lys Gln Tyr Gly Ile Thr Gly Glu Asn Val Arg  
165 170 175

Gly Glu Leu Leu Ala Leu Val Lys Asp Leu Pro Ser Gln Leu Ala Glu  
180 185 190

Ile Gly Ala Ala Ala Gln Gln Ser Leu Gly Glu Ala Ile Asp Val Tyr  
195 200 205

Gln Ala Ser Val Gly Phe Val Cys Glu Ser Pro Thr Glu Gln Val Leu  
210 215 220

Pro	Met	Leu	Arg	Phe	Val	Gln	Lys	Arg	Gly	Asn	Ser	Thr	Val	Tyr	Glu	225	230	235	240
Trp	Arg	Thr	Gly	Thr	Glu	Pro	Ser	Val	Val	Glu	Arg	Pro	His	Leu	Glu	245	250	255	
Glu	Leu	Pro	Glu	Gln	Val	Ala	Glu	Asp	Ala	Ile	Asp	Trp	Gly	Asp	Phe	260	265	270	
Gly	Val	Glu	Ala	Val	Ser	Glu	Gly	Thr	Asp	Ser	Gly	Ile	Ser	Ala	Glu	275	280	285	
Ala	Ala	Gly	Ile	Asp	Trp	Gly	Ile	Phe	Pro	Glu	Ser	Asp	Ser	Lys	Asp	290	295	300	
Pro	Gly	Gly	Asp	Gly	Ile	Asp	Trp	Gly	Asp	Asp	Ala	Val	Ala	Leu	Gln	305	310	315	320
Ile	Thr	Val	Leu	Glu	Ala	Gly	Thr	Gln	Ala	Pro	Glu	Gly	Val	Ala	Arg	325	330	335	
Gly	Pro	Asp	Ala	Leu	Thr	Leu	Leu	Glu	Tyr	Thr	Glu	Thr	Arg	Asn	Gln	340	345	350	
Phe	Leu	Asp	Glu	Leu	Met	Glu	Leu	Glu	Ile	Phe	Leu	Ala	Gln	Arg	Ala	355	360	365	
Val	Glu	Leu	Ser	Glu	Glu	Ala	Asp	Val	Leu	Ser	Val	Ser	Gln	Phe	Gln	370	375	380	
Leu	Ala	Pro	Ala	Ile	Leu	Gln	Gly	Gln	Thr	Lys	Glu	Lys	Met	Val	Thr	385	390	395	400
Met	Val	Ser	Val	Leu	Glu	Asp	Leu	Ile	Gly	Lys	Leu	Thr	Ser	Leu	Gln	405	410	415	
Leu	Gln	His	Leu	Phe	Met	Ile	Leu	Ala	Ser	Pro	Arg	Tyr	Val	Asp	Arg	420	425	430	
Val	Thr	Glu	Phe	Leu	Gln	Gln	Lys	Leu	Lys	Gln	Ser	Gln	Leu	Leu	Ala	435	440	445	
Leu	Lys	Lys	Glu	Leu	Met	Val	Gln	Lys	Gln	Gln	Glu	Ala	Leu	Glu	Glu	450	455	460	
Gln	Ala	Ala	Leu	Glu	Pro	Lys	Leu	Asp	Leu	Leu	Leu	Glu	Lys	Thr	Lys	465	470	475	480
Glu	Leu	Gln	Lys	Leu	Ile	Glu	Ala	Asp	Ile	Ser	Lys	Arg	Tyr	Ser	Gly	485	490	495	
Arg	Pro	Val	Asn	Leu	Met	Gly	Thr	Ser	Leu							500	505		

<210> 271  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 271  
 Met Thr Ser Leu Cys Met Ala Met Thr Glu Glu Gln His Lys Ser Val  
           1                  5                  10                  15  
 Val Ile Asp Cys Ser Ser Ser Gln Pro Gln Phe Cys Asn Ala Gly Ser  
                   20                  25                  30  
 Asn Arg Phe Cys Glu Asp Trp Met Gln Ala Phe Leu Asn Gly Ala Lys  
                   35                  40                  45  
 Gly Gly Asn Pro Phe Leu Phe Arg Gln Val Leu Glu Asn Phe Lys Leu  
           50                  55                  60  
 Lys Ala Ile Gln Asp Thr Asn Asn Leu Lys Arg Phe Ile Arg Gln Ala  
           65                  70                  75                  80  
 Glu Met Asn His Tyr Ala Leu Phe Lys Cys Tyr Met Phe Leu Lys Asn  
                   85                  90                  95  
 Cys Gly Ser Gly Asp Ile Leu Leu Lys Ile Val Lys Val Glu His Glu  
                   100                  105                  110  
 Glu Met Pro Glu Ala Lys Asn Val Ile Ala Val Leu Glu Glu Phe Met  
           115                  120                  125  
 Lys Glu Ala Leu Asp Gln Ser Phe  
           130                  135

<210> 272  
 <211> 509  
 <212> PRT  
 <213> Homo sapiens

<400> 272  
 Met Phe Thr Asn Asp Met Met Glu Cys Lys Gln Asp Glu Ile Val Met  
           1                  5                  10                  15  
 Gln Gly Met Asp Pro Ser Ala Leu Glu Ala Leu Ile Asn Phe Ala Tyr  
                   20                  25                  30  
 Asn Gly Asn Leu Ala Ile Asp Gln Gln Asn Val Gln Ser Leu Leu Met  
           35                  40                  45  
 Gly Ala Ser Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala Cys Cys Thr  
           50                  55                  60  
 Phe Leu Arg Glu Arg Leu His Pro Lys Asn Cys Leu Gly Val Arg Gln  
           65                  70                  75                  80  
 Phe Ala Glu Thr Met Met Cys Ala Val Leu Tyr Asp Ala Ala Asn Ser  
                   85                  90                  95



Phe	Ile	His	Gln	His	Phe	Val	Glu	Val	Ser	Met	Ser	Glu	Glu	Phe	Leu	100	105	110
Ala	Leu	Pro	Leu	Glu	Asp	Val	Leu	Glu	Leu	Val	Ser	Arg	Asp	Glu	Leu	115	120	125
Asn	Val	Lys	Ser	Glu	Glu	Gln	Val	Phe	Glu	Ala	Ala	Leu	Ala	Trp	Val	130	135	140
Arg	Tyr	Asp	Arg	Glu	Gln	Arg	Gly	Pro	Tyr	Leu	Pro	Glu	Leu	Leu	Ser	145	150	155
Asn	Ile	Arg	Leu	Pro	Leu	Cys	Arg	Pro	Gln	Phe	Leu	Ser	Asp	Arg	Val	165	170	175
Gln	Gln	Asp	Asp	Leu	Val	Arg	Cys	Cys	His	Lys	Cys	Arg	Asp	Leu	Val	180	185	190
Asp	Glu	Ala	Lys	Asp	Tyr	His	Leu	Met	Pro	Glu	Arg	Arg	Pro	His	Leu	195	200	205
Pro	Ala	Phe	Arg	Thr	Arg	Pro	Arg	Cys	Cys	Thr	Ser	Ile	Ala	Gly	Leu	210	215	220
Ile	Tyr	Ala	Val	Gly	Gly	Leu	Asn	Ser	Ala	Gly	Asp	Ser	Leu	Asn	Val	225	230	235
Val	Glu	Val	Phe	Asp	Pro	Ile	Ala	Asn	Cys	Trp	Glu	Arg	Cys	Arg	Pro	245	250	255
Met	Thr	Thr	Ala	Arg	Ser	Arg	Val	Gly	Val	Ala	Val	Val	Asn	Gly	Leu	260	265	270
Leu	Tyr	Ala	Ile	Gly	Gly	Tyr	Asp	Gly	Gln	Leu	Arg	Leu	Ser	Thr	Val	275	280	285
Glu	Ala	Tyr	Asn	Pro	Glu	Thr	Asp	Thr	Trp	Thr	Arg	Val	Gly	Ser	Met	290	295	300
Asn	Ser	Lys	Arg	Ser	Ala	Met	Gly	Thr	Val	Val	Leu	Asp	Gly	Gln	Ile	305	310	315
Tyr	Val	Cys	Gly	Gly	Tyr	Asp	Gly	Asn	Ser	Ser	Leu	Ser	Ser	Val	Glu	325	330	335
Thr	Tyr	Ser	Pro	Glu	Thr	Asp	Lys	Trp	Thr	Val	Val	Thr	Ser	Met	Ser	340	345	350
Ser	Asn	Arg	Ser	Ala	Ala	Gly	Val	Thr	Val	Phe	Glu	Gly	Arg	Ile	Tyr	355	360	365
Val	Ser	Gly	Gly	His	Asp	Gly	Leu	Gln	Ile	Phe	Ser	Ser	Val	Glu	His	370	375	380
Tyr	Asn	His	His	Thr	Ala	Thr	Trp	His	Pro	Ala	Ala	Gly	Met	Leu	Asn	385	390	395

Lys Arg Cys Arg His Gly Ala Ala Ser Leu Gly Ser Lys Met Phe Val  
                                   405                                  410                                  415  
 Cys Gly Gly Tyr Asp Gly Ser Gly Phe Leu Ser Ile Ala Glu Met Tyr  
                                   420                                  425                                  430  
 Ser Ser Val Ala Asp Gln Trp Cys Leu Ile Val Pro Met His Thr Arg  
                                   435                                  440                                  445  
 Arg Ser Arg Val Ser Leu Val Ala Ser Cys Gly Arg Leu Tyr Ala Val  
                                   450                                  455                                  460  
 Gly Gly Tyr Asp Gly Gln Ser Asn Leu Ser Ser Val Glu Met Tyr Asp  
                                   465                                  470                                  475                                  480  
 Pro Glu Thr Asp Cys Trp Thr Phe Met Ala Pro Met Ala Cys His Glu  
                                   485                                  490                                  495  
 Gly Gly Val Gly Val Gly Cys Ile Pro Leu Leu Thr Ile  
                                   500                                  505

<210> 273  
 <211> 49  
 <212> PRT  
 <213> Homo sapiens

<400> 273  
 Met Ser Phe Ser Ala Ile Leu Ser Pro Phe Ser Ser Leu Ser Val Asn  
   1                                  5                                  10                                  15  
 Val Arg Asn Leu Arg Gln Arg Gly Lys Gly Arg Gln Asn Ser Arg Ile  
                                   20                                  25                                  30  
 Leu Thr Leu Ile Val Lys Ile Leu Phe Lys Thr Trp His Leu Ile Phe  
                                   35                                  40                                  45  
 Leu

<210> 274  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Glu Ser His Ser Val Thr Gln Ala Gly Val Gln Trp His Asp Leu  
   1                                  5                                  10                                  15  
 Gly Ser Leu His Ser Pro Leu Leu Gly Ser Ser Asp Ser Pro Thr Ser  
                                   20                                  25                                  30  
 Ala Ser Arg Val Ala Gly Ile Thr Gly Met Gln His His Thr Gln Leu  
                                   35                                  40                                  45  
 Ile Phe Leu Phe Leu Val Glu Met Gly Phe His His Val Gly Gln Ala  
   50                                  55                                  60

Gly Leu Lys Leu Leu Thr Ser Gly Asp Pro Pro Ala Ser Ala Ser Gln  
 65 70 75 80

Ser Ala Gly Ile Thr Gly Val Gly His His Thr Trp Pro Ile Met Glu  
 85 90 95

Asp Phe Leu Met Val Met Phe Glu Leu Gly Phe Gly Glu  
 100 105

<210> 275

<211> 54

<212> PRT

<213> Homo sapiens

<400> 275

Met Glu Ser Asn Ile Ile Tyr Thr Pro Ser Leu Pro Leu Phe Leu Pro  
 1 5 10 15

Pro Phe Leu Pro Pro Ser Leu Pro Pro Phe Leu Pro Pro Phe Ser Leu  
 20 25 30

Ser Leu Ser Leu Pro Ala Ser Leu Pro Phe Phe Leu Leu Cys Leu Leu  
 35 40 45

Pro Cys Asp Trp Gly Lys  
 50

<210> 276

<211> 66

<212> PRT

<213> Homo sapiens

<400> 276

Met Leu Leu Tyr Arg Leu Ala Gln Leu Gly Leu Tyr Phe Leu Tyr Ser  
 1 5 10 15

Met Pro Val Glu His Gln Met Leu Asn Thr Ser Thr Cys Cys Asp Phe  
 20 25 30

Ala Ile Pro Ala His Ile Thr His Leu Ile Ser Phe Val Gly Gly His  
 35 40 45

Val Gly Trp Pro Thr His Trp Gln Val Asn Ser Leu Ile Trp Thr Met  
 50 55 60

Ser His  
 65

<210> 277

<211> 180

<212> PRT

<213> Homo sapiens

&lt;400&gt; 277

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile  
 1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp  
 20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser  
 35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val  
 50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg  
 65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys  
 85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His  
 100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr  
 115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly  
 130 135 140

Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala  
 145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu  
 165 170 175

Glu Thr Leu Thr  
 180

&lt;210&gt; 278

&lt;211&gt; 34

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 278

Met Gly Leu Glu Arg Gly Phe Asp Pro Arg Ser Leu Cys Ala Phe Ala  
 1 5 10 15

Ala Glu Pro His Asn Leu Ser Phe Gln Lys His Phe Gln Asn Ala Asn  
 20 25 30

Ile Phe

&lt;210&gt; 279

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 279

Met Leu Arg Val Asn Phe Phe Phe Phe Phe Phe Phe Phe Ser Phe  
 1 5 10 15

Ser Leu Arg Leu Gly Leu Ala Leu Leu Pro Arg Leu Glu Trp Ser Gly  
 20 25 30

Val Ile Leu Ala Tyr Cys Ser Leu Cys Leu Pro Gly Ser Ser Ser Pro  
 35 40 45

Ala Ser Ala Ser Gly Val Ala Gly Thr Thr Gly Ser Cys His His Gly  
 50 55 60

Gln Pro Thr Phe Ala Cys Phe Val Lys Met Gly Ser His Ser Val Ala  
 65 70 75 80

Gln Ala Gly Leu Lys Leu Leu Gly Ser Gly Asp Pro Pro Val Ser Ala  
 85 90 95

Ser Gln Ser Ala Gly Ile Thr Ile Val Ser His His Val Gln Leu Glu  
 100 105 110

Gly Ser Thr Ser Phe Thr Phe Cys Lys His Ile Cys Ile Phe Thr Pro  
 115 120 125

Pro Phe Pro Ser Phe Ser Leu Phe Ile Ser His Phe Tyr Ile Asp Leu  
 130 135 140

Leu Phe Tyr Asn Lys Thr Leu Leu Pro Lys Lys Lys Lys Lys Lys Lys  
 145 150 155 160

Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 165

&lt;210&gt; 280

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 280

Met Met Ile Trp Ile His Gln Asp Leu Phe Tyr Ala Gln Gly Gln Phe  
 1 5 10 15

Leu Phe Phe Phe Phe Phe Phe Phe Phe Phe Phe Glu Thr Gly Ser  
 20 25 30

Arg Phe Val Ala Gln Ala Gly Val Glu Trp Arg Asp Leu Gly Leu Leu  
 35 40 45

Gln Pro Leu Pro Pro Arg Leu Glu Gln Ser Cys Leu Ser Leu Arg Ser  
 50 55 60

Ser Trp Asp His Arg Phe Met Pro Pro Trp Pro Ala Asn Phe Cys Met  
 65 70 75 80

118

Phe Cys Lys Asp Gly Val Ser Gln Cys Cys Pro Gly Trp Ser Gln Thr  
85 90 95  
Pro Gly Leu Arg Arg Ser Thr Cys Leu Ser Leu Pro Glu Cys Trp Asp  
100 105 110  
Tyr Asn Cys Glu Pro Pro Arg Pro Ala Gly Arg Val Asn Ile Phe Tyr  
115 120 125  
Ile Leu Gln Ala His Leu His Phe His Pro Thr Leu Pro Leu Leu Leu  
130 135 140  
Pro Phe Tyr Ile Pro Phe Leu Tyr Arg Ser Leu Ile Leu Gln  
145 150 155

<210> 281  
<211> 43  
<212> PRT  
<213> Homo sapiens

<400> 281  
Met Pro Leu Gly Pro Val Gln Val Tyr Leu Ser Leu Ile Ser Glu Ser  
1 5 10 15  
Cys Ser Ser Cys Leu Thr Leu Pro His Gly Ser Ser Val His Leu Ser  
20 25 30  
Ile Thr Val Leu Asn Pro Phe Ser Ile Ser Val  
35 40

<210> 282  
<211> 61  
<212> PRT  
<213> Homo sapiens

<400> 282  
Met Lys Lys Leu Thr Leu Pro Met Gly Leu Pro Pro Phe Leu Pro Leu  
1 5 10 15  
Phe Ser Leu Trp Tyr Pro Ser Arg Val Phe Pro Ser Pro Leu Gln Ser  
20 25 30  
Pro Ile Ser His Leu Phe Phe Phe Ser Pro Ser Ser Phe Ser Tyr Cys  
35 40 45  
Val Leu Pro Ala Thr Ser His Arg Leu Val Val Tyr Lys  
50 55 60

<210> 283  
<211> 207  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 283

```

Met Gln Lys Met Leu Pro Glu Ile Asp Gln Asn Lys Asp Arg Met Leu
 1              5              10              15

Glu Ile Leu Glu Gly Lys Gly Leu Ser Phe Leu Phe Pro Leu Leu Lys
      20              25              30

Leu Glu Lys Glu Leu Leu Lys Gln Ile Lys Leu Asp Pro Ser Pro Gln
      35              40              45

Thr Ile Tyr Lys Trp Ile Lys Asp Asn Ile Ser Pro Lys Leu His Val
 50              55              60

Asp Lys Gly Phe Val Asn Ile Leu Met Thr Ser Phe Leu Gln Tyr Ile
65              70              75              80

Ser Ser Glu Val Asn Pro Pro Ser Asp Glu Thr Asp Ser Ser Ser Ala
      85              90              95

Pro Ser Lys Glu Gln Leu Glu Gln Glu Lys Gln Leu Leu Leu Ser Phe
      100              105              110

Lys Pro Val Met Gln Lys Phe Leu His Asp His Val Asp Leu Gln Val
      115              120              125

Ser Ala Leu Tyr Ala Leu Gln Val His Cys Tyr Asn Ser Asn Phe Pro
      130              135              140

Lys Gly Met Leu Leu Arg Phe Phe Val His Phe Tyr Asp Met Glu Ile
145              150              155              160

Ile Glu Glu Glu Ala Phe Leu Ala Trp Lys Glu Asp Ile Thr Gln Glu
      165              170              175

Phe Pro Gly Lys Gly Lys Ala Leu Phe Gln Val Asn Gln Trp Leu Thr
      180              185              190

Trp Leu Glu Thr Ala Glu Glu Glu Glu Ser Glu Glu Glu Ala Asp
      195              200              205

```

&lt;210&gt; 284

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (80)

&lt;223&gt; Asp or Glu

&lt;400&gt; 284

```

Phe Ser Cys Leu Ser Phe Leu Ser Ser Trp Asp Tyr Arg His Ala Pro
 1              5              10              15

Pro Cys Leu Ala Asn Phe Ala Phe Leu Val Glu Thr Gly Phe His His
      20              25              30

```

120

Val Gly Gln Ala Gly Leu Lys Leu Pro Thr Ser Gly Asp Leu Pro Thr  
35 40 45  
Ser Ala Ser Gln Ser Ala Gly Ile Thr Gly Met Ser Tyr Arg Ala Trp  
50 55 60  
Pro Val Tyr Phe Trp Arg Gln Ser Leu Ala Leu Leu Pro Arg Leu Xaa  
65 70 75 80  
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85 90 95  
Val Arg His Leu Pro Ser Ser Trp Gly  
100 105

<210> 285  
<211> 91  
<212> PRT  
<213> Homo sapiens

<400> 285  
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Phe Arg Phe Asn Ser Thr Phe Lys Lys Ser Tyr Leu Tyr Ile Cys Ile  
20 25 30  
Phe Ile Phe Ile Phe Gln Asp Leu Ile Cys Leu Phe Phe Ile Met Gly  
35 40 45  
Tyr Tyr Cys Ser Met Val Gln Asn Leu Leu Phe Phe Pro Lys Leu Leu  
50 55 60  
Val Ile Phe Lys Ile Phe Val Asn Phe Leu Pro Leu Ala Ser Ser Gln  
65 70 75 80  
Val Pro Ala Phe Ser Gln Ser Ala Gly Phe Pro  
85 90

<210> 286  
<211> 75  
<212> PRT  
<213> Homo sapiens

<400> 286  
Pro Lys Ser Leu Pro Gly His Pro Leu Ala Tyr Ser Leu Thr Gly His  
1 5 10 15  
Ala Pro Ala Val His Thr Gly Ser Tyr Gln Ser Ser Ser Trp Ala Pro  
20 25 30  
Phe Gln Thr Ser Glu Glu Ser Phe Gln His Glu Glu Gly Val Gln Asn  
35 40 45  
Lys Gln Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu  
50 55 60



Lys Arg Asn Ile Asn Asn Ala Gly Ser Lys Arg  
 65 70 75

<210> 287  
 <211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 287  
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 Ala Ile Gly Val Leu Ala Ser Leu Ala Tyr Gln Arg Tyr Lys Ala Gly  
 20 25 30  
 Val Asp Asp Phe Ile Gln Asn Tyr Val Asp Pro Thr Pro Asp Pro Asn  
 35 40 45  
 Thr Ala Tyr Ala Ser Tyr Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln  
 50 55 60  
 Pro Pro Phe Thr Gln Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro  
 65 70 75 80  
 Pro Val Tyr

<210> 288  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 288  
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 Cys Trp Pro Pro Trp Pro Thr Ser Ala Thr Arg Leu Ala Trp Thr Thr  
 35 40 45  
 Ser Ser Arg Ile Thr Leu Thr Pro Leu Arg Thr Pro Thr Leu Pro Thr  
 50 55 60  
 Pro Pro Thr Gln Val His Leu Trp Thr Thr Thr Asn Ser His Pro Ser  
 65 70 75 80  
 Pro Arg Thr Arg Arg Pro Pro Arg Ala Thr Ser Arg Pro Leu Cys Thr  
 85 90 95  
 Glu Arg Arg Leu Ala Trp Glu Gly Gly Gln Arg Gly Pro Ser Pro Leu  
 100 105 110

Pro Trp Thr Phe Pro  
115

<210> 289  
<211> 1280  
<212> DNA  
<213> Homo sapiens

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<210> 290  
<211> 2978  
<212> DNA  
<213> Homo sapiens

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gcagacaagt taacgagaat tgctattgtc aaccatgaca aatgtaaacc taagaaatgt 180
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aaaaatgaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaa			2978

&lt;210&gt; 291

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 291

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aatgacaaca	catctcaaga	aactcaaaga	atcatactgt	caaagacagg	gtgttccaat	300
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aaaaaaaaaa aaaaaaaaaa                                     1218

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<210> 292
<211> 825
<212> DNA
<213> Homo sapiens

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<400> 292
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tatggccaca gaagttgctg ctgacgctct ggggtgaagaa tgggaagggtt atgtgggtccg 180
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<210> 293
<211> 1978
<212> DNA
<213> Homo sapiens

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<400> 293
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&lt;210&gt; 294

&lt;211&gt; 895

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 294

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&lt;210&gt; 295

&lt;211&gt; 1358

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 295

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<210> 296
<211> 2033
<212> DNA
<213> Homo sapiens

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<400> 296
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<210> 297
<211> 1059
<212> DNA
<213> Homo sapiens

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<400> 297
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ggaggaggtc gttcagattc taggagataa gtttccatgc actttgggtg cacagaaaat 180
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&lt;210&gt; 298

&lt;211&gt; 1769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 298

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aatctttgaa aaaaaaaaaa aaaaaaaaaa 1769

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&lt;210&gt; 299

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 299

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cgcgccgccca caatgggtgcg catgaatgtc ctggcagatg ctctcaagag tatcaacaat 60
gccgaaaaga gaggcaaacg ccagggtgctt attaggccgt gctccaaagt catcgctccg 120
tttctcactg tgatgatgaa gcatgggttac attggcgaat ttgaaatcat tgatgaccac 180
agagctggga aaattgttgt gaacctcaca ggcaggctaa acaagtgtgg ggtgatcagc 240
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atttacaat aaaatgcctc atggacaaaa aaaaaaaaaa aaa 463

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&lt;210&gt; 300

&lt;211&gt; 703

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 300

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caataaaaaga cctattgatt tgggaaaaaa aaaaaaaaaa aaa 703

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&lt;210&gt; 301

&lt;211&gt; 887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 301

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 <211> 905  
 <212> DNA  
 <213> Homo sapiens

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 gcatgtttctg tgaatctgcc attcctaaaa attttataaa cacttgatac ttttctactga 780  
 taatggatcg ctccaataaa catatattgt gaaaatgcat ccacaataaa tgggaattcct 840  
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<210> 303  
 <211> 1832  
 <212> DNA  
 <213> Homo sapiens

<400> 303  
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attgctcaag agtatgtaaa aaaaaaaaaa aa 1832

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<210> 304
<211> 1824
<212> DNA
<213> Homo sapiens

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<210> 305
<211> 759
<212> DNA
<213> Homo sapiens

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ggtgtttatt gttttgttcc caaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
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&lt;210&gt; 306

&lt;211&gt; 938

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 306

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa

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&lt;210&gt; 307

&lt;211&gt; 1281

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 307

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1281

<210> 308

<211> 1698

<212> DNA

<213> Homo sapiens

<400> 308

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<210> 309

<211> 1102

<212> DNA

<213> Homo sapiens

<400> 309

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aaacttaaaa aaaaaaaaaa aa 1102

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&lt;210&gt; 310

&lt;211&gt; 519

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 310

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taaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa 519

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&lt;210&gt; 311

&lt;211&gt; 2335

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 311

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&lt;210&gt; 312

&lt;211&gt; 1027

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 312

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aaaaaa 1027

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&lt;210&gt; 313

&lt;211&gt; 1068

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 313

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&lt;210&gt; 314

&lt;211&gt; 810

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 314

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&lt;210&gt; 315

&lt;211&gt; 2505

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 315

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&lt;210&gt; 316

&lt;211&gt; 1588

&lt;212&gt; DNA

&lt;213&gt; Homo .sapiens

&lt;400&gt; 316

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 319

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<211> 1571

<212> DNA

<213> Homo sapiens

<400> 320

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<212> DNA

<213> Homo sapiens

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&lt;211&gt; 2338

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 327

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 328

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 331

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 332

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 333

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<212> DNA

<213> Homo sapiens

<400> 334

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&lt;213&gt; Homo sapiens

&lt;400&gt; 335

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<213> Homo sapiens

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<211> 1567

<212> DNA

<213> Homo sapiens

<400> 337

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 <213> Homo sapiens

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<211> 1816

<212> DNA

<213> Homo sapiens

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<211> 696

<212> DNA

<213> Homo sapiens

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<210> 342

<211> 4912

<212> DNA

<213> Homo sapiens

<400> 342

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<211> 2731

<212> DNA

<213> Homo sapiens

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<223> a, c, g, t, unknown or other

<400> 343

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&lt;210&gt; 344

&lt;211&gt; 561

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 344

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&lt;210&gt; 345

&lt;211&gt; 3443

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 345

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<211> 1358

<212> DNA

<213> Homo sapiens

<400> 346

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<210> 347

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 347

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&lt;210&gt; 348

&lt;211&gt; 1306

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 348

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tcc	ctt	tt	ct	aca	ttt	1260
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&lt;210&gt; 349

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 349

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 <212> DNA  
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&lt;210&gt; 355

&lt;211&gt; 2303

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 355

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&lt;210&gt; 356

&lt;211&gt; 361

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 356

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 Ser Pro Gly Pro Thr Gly Gln Pro Arg Arg Pro Arg Asn Leu Ala Ala  
 35 40 45  
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 65 70 75 80  
 Ala Val Val Pro Leu Asp Leu Val Lys Cys Arg Met Gln Val Asp Pro  
 85 90 95  
 Gln Lys Tyr Lys Gly Ile Phe Asn Gly Phe Ser Val Thr Leu Lys Glu  
 100 105 110  
 Asp Gly Val Arg Gly Leu Ala Lys Gly Trp Ala Pro Thr Phe Leu Gly  
 115 120 125  
 Tyr Ser Met Gln Gly Leu Cys Lys Phe Gly Phe Tyr Glu Val Phe Lys  
 130 135 140  
 Val Leu Tyr Ser Asn Met Leu Gly Glu Glu Asn Thr Tyr Leu Trp Arg  
 145 150 155 160  
 Thr Ser Leu Tyr Leu Ala Ala Ser Ala Ser Ala Glu Phe Phe Ala Asp  
 165 170 175  
 Ile Ala Leu Ala Pro Met Glu Ala Ala Lys Val Arg Ile Gln Thr Gln  
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 Pro Gly Tyr Ala Asn Thr Leu Arg Asp Ala Ala Pro Lys Met Tyr Lys  
 195 200 205  
 Glu Glu Gly Leu Lys Ala Phe Tyr Lys Gly Val Ala Pro Leu Trp Met  
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 Arg Gln Ile Pro Tyr Thr Met Met Lys Phe Ala Cys Phe Glu Arg Thr  
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 Val Glu Ala Leu Tyr Lys Phe Val Val Pro Lys Pro Arg Ser Glu Cys  
 245 250 255  
 Ser Lys Pro Glu Gln Leu Val Val Thr Phe Val Ala Gly Tyr Ile Ala  
 260 265 270  
 Gly Val Phe Cys Ala Ile Val Ser His Pro Ala Asp Ser Val Val Ser  
 275 280 285  
 Val Leu Asn Lys Glu Lys Gly Ser Ser Ala Ser Leu Val Leu Lys Arg  
 290 295 300

165

Leu Gly Phe Lys Gly Val Trp Lys Gly Leu Phe Ala Arg Ile Ile Met  
305 310 315 320

Ile Gly Thr Leu Thr Ala Leu Gln Trp Phe Ile Tyr Asp Ser Val Lys  
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Val Tyr Phe Arg Leu Pro Arg Pro Pro Pro Pro Glu Met Pro Glu Ser  
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Leu Lys Lys Lys Leu Gly Leu Thr Gln  
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<210> 357

<211> 640

<212> PRT

<213> Homo sapiens

<400> 357

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Cys Pro Lys Met Met Glu Val Gly Ala Lys Pro Ala Pro Arg Ala Leu  
35 40 45

Ser Thr Ala Ala Val His Tyr Gln Gln Ile Lys Glu Thr Pro Pro Ala  
50 55 60

Ser Glu Lys Asp Lys Thr Ala Lys Ala Lys Val Gln Gln Thr Pro Asp  
65 70 75 80

Gly Ser Gln Gln Ser Pro Asp Gly Thr Gln Leu Pro Ser Gly His Pro  
85 90 95

Leu Pro Ala Thr Ser Gln Gly Thr Ala Ser Lys Cys Pro Phe Leu Ala  
100 105 110

Ala Gln Met Asn Gln Arg Gly Ser Ser Val Phe Cys Lys Ala Ser Leu  
115 120 125

Glu Leu Gln Glu Asp Val Gln Glu Met Asn Ala Val Arg Lys Glu Val  
130 135 140

Ala Glu Thr Ser Ala Gly Pro Ser Val Val Ser Val Lys Thr Asp Gly  
145 150 155 160

Gly Asp Pro Ser Gly Leu Leu Lys Asn Phe Gln Asp Ile Met Gln Lys  
165 170 175

Gln Arg Pro Glu Arg Val Ser His Leu Leu Gln Asp Asn Leu Pro Lys  
180 185 190

Ser Val Ser Thr Phe Gln Tyr Asp Arg Phe Phe Glu Lys Lys Ile Asp  
195 200 205

Glu	Lys	Lys	Asn	Asp	His	Thr	Tyr	Arg	Val	Phe	Lys	Thr	Val	Asn	Arg	210	215	220	
Arg	Ala	His	Ile	Phe	Pro	Met	Ala	Asp	Asp	Tyr	Ser	Asp	Ser	Leu	Ile	225	230	235	240
Thr	Lys	Lys	Gln	Val	Ser	Val	Trp	Cys	Ser	Asn	Asp	Tyr	Leu	Gly	Met	245	250	255	
Ser	Arg	His	Pro	Arg	Val	Cys	Gly	Ala	Val	Met	Asp	Thr	Leu	Lys	Gln	260	265	270	
His	Gly	Ala	Gly	Ala	Gly	Gly	Thr	Arg	Asn	Ile	Ser	Gly	Thr	Ser	Lys	275	280	285	
Phe	His	Val	Asp	Leu	Glu	Arg	Glu	Leu	Ala	Asp	Leu	His	Gly	Lys	Asp	290	295	300	
Ala	Ala	Leu	Leu	Phe	Ser	Ser	Cys	Phe	Val	Ala	Asn	Asp	Ser	Thr	Leu	305	310	315	320
Phe	Thr	Leu	Ala	Lys	Met	Met	Pro	Gly	Cys	Glu	Ile	Tyr	Ser	Asp	Ser	325	330	335	
Gly	Asn	His	Ala	Ser	Met	Ile	Gln	Gly	Ile	Arg	Asn	Ser	Arg	Val	Pro	340	345	350	
Lys	Tyr	Ile	Phe	Arg	His	Asn	Asp	Val	Ser	His	Leu	Arg	Glu	Leu	Leu	355	360	365	
Gln	Arg	Ser	Asp	Pro	Ser	Val	Pro	Lys	Ile	Val	Ala	Phe	Glu	Thr	Val	370	375	380	
His	Ser	Met	Asp	Gly	Ala	Val	Cys	Pro	Leu	Glu	Glu	Leu	Cys	Asp	Val	385	390	395	400
Ala	His	Glu	Phe	Gly	Ala	Ile	Thr	Phe	Val	Asp	Glu	Val	His	Ala	Val	405	410	415	
Gly	Leu	Tyr	Gly	Ala	Arg	Gly	Gly	Gly	Ile	Gly	Asp	Arg	Asp	Gly	Val	420	425	430	
Met	Pro	Lys	Met	Asp	Ile	Ile	Ser	Gly	Thr	Leu	Gly	Lys	Ala	Phe	Gly	435	440	445	
Cys	Val	Gly	Gly	Tyr	Ile	Ala	Ser	Thr	Ser	Ser	Leu	Ile	Asp	Thr	Val	450	455	460	
Arg	Ser	Tyr	Ala	Ala	Gly	Phe	Ile	Phe	Thr	Thr	Ser	Leu	Pro	Pro	Met	465	470	475	480
Leu	Leu	Ala	Gly	Ala	Leu	Glu	Ser	Val	Arg	Ile	Leu	Lys	Ser	Ala	Glu	485	490	495	
Gly	Arg	Val	Leu	Arg	Arg	Gln	His	Gln	Arg	Asn	Val	Lys	Leu	Met	Arg	500	505	510	

Gln Met Leu Met Asp Ala Gly Leu Pro Val Val His Cys Pro Ser His  
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 Ile Ile Pro Val Arg Val Ala Asp Ala Ala Lys Asn Thr Glu Val Cys  
           530                                  535                                  540  
 Asp Glu Leu Met Ser Arg His Asn Ile Tyr Val Gln Ala Ile Asn Tyr  
   545                                  550                                  555                                  560  
 Pro Thr Val Pro Arg Gly Glu Glu Leu Leu Arg Ile Ala Pro Thr Pro  
                                   565                                  570                                  575  
 His His Thr Pro Gln Met Met Asn Tyr Phe Leu Glu Asn Leu Leu Val  
                                   580                                  585                                  590  
 Thr Trp Lys Gln Val Gly Leu Glu Leu Lys Pro His Ser Ser Ala Glu  
                                   595                                  600                                  605  
 Cys Asn Phe Cys Arg Arg Pro Leu His Phe Glu Val Met Ser Glu Arg  
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<211> 9

<212> PRT

<213> Artificial Sequence

<220>

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 peptide recognized by HLA-A2 restricted cytotoxic  
 T lymphocytes

<400> 358

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<210> 359

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<212> PRT

<213> Artificial Sequence

<220>

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 peptide recognized by HLA-A2 restricted cytotoxic  
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<400> 359

Phe Met Pro Gly Phe Ala Pro Leu Thr  
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<210> 360  
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<400> 360  
 Thr Leu Leu Val Ala Val Phe Gln Asp Val  
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<210> 362  
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<220>  
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<400> 362  
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<210> 363  
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       T lymphocytes

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 Met Val Tyr Asp Leu Tyr Lys Thr Leu  
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<210> 364  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

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Gly Leu Cys Lys Phe Gly Phe Tyr Glu Val  
1 5 10

<210> 365  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 365  
Phe Gly Phe Tyr Glu Val Phe Lys Val  
1 5

<210> 366  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 366  
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1 5

<210> 367  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
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peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 367

Ala Leu Ala Pro Met Glu Ala Ala Lys Val  
1 5 10

&lt;210&gt; 368

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 368

Arg Thr Val Glu Ala Leu Tyr Lys Phe Val  
1 5 10

&lt;210&gt; 369

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 369

Val Leu Ser Cys Gly Leu Thr His Thr  
1 5

&lt;210&gt; 370

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

&lt;400&gt; 370

Ala Leu Leu Phe Ser Ser Cys Phe Val  
1 5

&lt;210&gt; 371

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 371

Phe Leu Ser Arg Val Pro Gln Ala Phe Leu  
1 5 10

<210> 372

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 372

Met Leu Leu Ala Gly Ala Leu Glu Ser Val  
1 5 10

<210> 373

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 373

Leu Leu Gln Asp Asn Leu Pro Lys Ser Val  
1 5 10

<210> 374

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 374

Leu Met Ser Arg His Asn Ile Tyr Val  
1 5

<210> 375  
<211> 10  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 375  
Ser Leu Ile Asp Thr Val Arg Ser Tyr Ala  
1 5 10

<210> 376  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 376  
Phe Leu Gln Lys Ala Gly Lys Ser Leu Leu  
1 5 10

<210> 377  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 377  
Leu Leu Phe Ser Ser Cys Phe Val Ala  
1 5

<210> 378  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 378  
Gly Leu Leu Lys Asn Phe Gln Asp Ile  
1 5

<210> 379

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 379

Ser Val Trp Cys Ser Asn Asp Tyr Leu  
1 5

<210> 380

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 380

Leu Leu Val Thr Trp Lys Gln Val Gly Leu  
1 5 10

<210> 381

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A2 restricted cytotoxic  
T lymphocytes

<400> 381

Val Ala Asn Asp Ser Thr Leu Phe Thr Leu  
1 5 10

<210> 382

<211> 974

<212> DNA

<213> Homo sapiens

<400> 382

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cccacaaaac caagcgaggc caggccgctc tggaccgtct caaggtgttt gacggcatcc 180  
cacctcccta cgacaagaaa aagcggatgg tggttcctgc tgccctcaag gtcgtgcgtc 240  
tgaagcctac aagaaagttt gcctatctgg ggcgcctggc tcacgaggtt ggctggaagt 300

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accaggcagt gacagccacc ctggaggaga agaggaaaga gaaagccaag atccactacc 360
ggaagaagaa acagctcatg aggctacgga aacaggccga gaagaacgtg gagaagaaaa 420
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tgtaattcc tcatgcgttg cctgcccttc ctccattgtt gccctggaat gtacgggacc 540
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ggaaagggtc ttagtcactg cctcccgaag ttgcttgaaa gcactcggag aattgtgcag 660
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<210> 383

<211> 821

<212> DNA

<213> Homo sapiens

<400> 383

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<210> 384

<211> 741

<212> DNA

<213> Homo sapiens

<400> 384

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aataaaaaaac tgggtcaagaa gctggccaag aagtatgatg cgtttttggc ctcagagtct 360
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<210> 385  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 385  
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 Arg Ile Phe Trp Arg Thr Val Arg Gly Met Leu Pro His Lys Thr Lys  
           20                  25                  30  
 Arg Gly Gln Ala Ala Leu Asp Arg Leu Lys Val Phe Asp Gly Ile Pro  
           35                  40                  45  
 Pro Pro Tyr Asp Lys Lys Lys Arg Met Val Val Pro Ala Ala Leu Lys  
           50                  55                  60  
 Val Val Arg Leu Lys Pro Thr Arg Lys Phe Ala Tyr Leu Gly Arg Leu  
   65                  70                  75                  80  
 Ala His Glu Val Gly Trp Lys Tyr Gln Ala Val Thr Ala Thr Leu Glu  
                   85                  90                  95  
 Glu Lys Arg Lys Glu Lys Ala Lys Ile His Tyr Arg Lys Lys Lys Gln  
           100                  105                  110  
 Leu Met Arg Leu Arg Lys Gln Ala Glu Lys Asn Val Glu Lys Lys Ile  
           115                  120                  125  
 Asp Lys Tyr Thr Glu Val Leu Lys Thr His Gly Leu Leu Val  
           130                  135                  140

<210> 386  
 <211> 233  
 <212> PRT  
 <213> Homo sapiens

<400> 386  
 Met Pro Val Thr Lys Leu Gly Arg Leu Val Lys Asp Met Lys Ile Lys  
   1                  5                  10                  15  
 Ser Leu Glu Glu Ile Tyr Leu Phe Ser Leu Pro Ile Lys Glu Ser Glu  
           20                  25                  30  
 Ile Ile Asp Phe Phe Leu Gly Ala Ser Leu Lys Asp Glu Val Leu Lys  
           35                  40                  45  
 Ile Met Pro Val Gln Lys Gln Thr Arg Ala Gly Gln Arg Thr Arg Phe  
           50                  55                  60  
 Lys Ala Phe Val Ala Ile Gly Asp Tyr Asn Gly His Val Gly Leu Gly  
   65                  70                  75                  80  
 Val Lys Cys Ser Lys Glu Val Ala Thr Ala Ile Arg Gly Ala Ile Ile  
                   85                  90                  95

176

Leu Ala Lys Leu Ser Ile Val Pro Val Arg Arg Gly Tyr Trp Gly Asn  
100 105 110

Lys Ile Gly Lys Pro His Thr Val Pro Cys Lys Val Thr Gly Arg Cys  
115 120 125

Gly Ser Val Leu Val Arg Leu Ile Pro Ala Pro Arg Gly Thr Gly Ile  
130 135 140

Val Ser Ala Pro Val Pro Lys Lys Leu Leu Met Met Ala Gly Ile Asp  
145 150 155 160

Asp Cys Tyr Thr Ser Ala Arg Gly Cys Thr Ala Thr Leu Gly Asn Phe  
165 170 175

Ala Lys Ala Thr Phe Asp Ala Ile Ser Lys Thr Tyr Ser Tyr Leu Thr  
180 185 190

Pro Asp Leu Trp Lys Glu Thr Val Phe Thr Lys Ser Pro Tyr Gln Glu  
195 200 205

Phe Thr Asp His Leu Val Lys Thr His Thr Arg Val Ser Val Gln Arg  
210 215 220

Thr Gln Ala Pro Ala Val Ala Thr Thr  
225 230

<210> 387

<211> 217

<212> PRT

<213> Homo sapiens

<400> 387

Met Ser Ser Lys Val Ser Arg Asp Thr Leu Tyr Glu Ala Val Arg Glu  
1 5 10 15

Val Leu His Gly Asn Gln Arg Lys Arg Arg Lys Phe Leu Glu Thr Val  
20 25 30

Glu Leu Gln Ile Ser Leu Lys Asn Tyr Asp Pro Gln Lys Asp Lys Arg  
35 40 45

Phe Ser Gly Thr Val Arg Leu Lys Ser Thr Pro Arg Pro Lys Phe Ser  
50 55 60

Val Cys Val Leu Gly Asp Gln Gln His Cys Asp Glu Ala Lys Ala Val  
65 70 75 80

Asp Ile Pro His Met Asp Ile Glu Ala Leu Lys Lys Leu Asn Lys Asn  
85 90 95

Lys Lys Leu Val Lys Lys Leu Ala Lys Lys Tyr Asp Ala Phe Leu Ala  
100 105 110

Ser Glu Ser Leu Ile Lys Gln Ile Pro Arg Ile Leu Gly Pro Gly Leu  
115 120 125



Asn Lys Ala Gly Lys Phe Pro Ser Leu Leu Thr His Asn Glu Asn Met  
 130 135 140

Val Ala Lys Val Asp Glu Val Lys Ser Thr Ile Lys Phe Gln Met Lys  
 145 150 155 160

Lys Val Leu Cys Leu Ala Val Ala Val Gly His Val Lys Met Thr Asp  
 165 170 175

Asp Glu Leu Val Tyr Asn Ile His Leu Ala Val Asn Phe Leu Val Ser  
 180 185 190

Leu Leu Lys Lys Asn Trp Gln Asn Val Arg Ala Leu Tyr Ile Lys Ser  
 195 200 205

Pro Met Gly Lys Pro Gln Arg Leu Tyr  
 210 215

<210> 388

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A26 restricted cytotoxic  
 T lymphocytes

<400> 388

Leu Val Leu Asp Gly Arg Gly His Leu  
 1 5

<210> 389

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A26 restricted cytotoxic  
 T lymphocytes

<400> 389

His Leu Leu Gly Arg Leu Ala Ala Ile  
 1 5

<210> 390

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 peptide recognized by HLA-A26 restricted cytotoxic  
 T lymphocytes

<400> 390

Ala Ile Val Ala Lys Gln Val Leu Leu  
1 5

<210> 391

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 391

Val Leu Leu Gly Arg Lys Val Val Val  
1 5

<210> 392

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 392

Ala Phe Leu Arg Lys Arg Met Asn Thr  
1 5

<210> 393

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 393

His Phe Arg Ala Pro Ser Arg Ile Phe  
1 5

<210> 394

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 394

Val Leu Lys Thr His Gly Leu Leu Val  
1 5

<210> 395

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 395

Pro Val Thr Lys Leu Gly Arg Leu Val  
1 5

<210> 396

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 396

Lys Ile Met Pro Val Gln Lys Gln Thr  
1 5

<210> 397

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 397

Val Thr Gly Arg Cys Gly Ser Val Leu  
1 5

<210> 398  
<211> 9  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 398  
Arg Leu Ile Pro Ala Pro Arg Gly Thr  
1 5

<210> 399  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 399  
Asp Leu Trp Lys Glu Thr Val Phe Thr  
1 5

<210> 400  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 400  
His Leu Val Lys Thr His Thr Arg Val  
1 5

<210> 401  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 401  
His Thr Arg Val Ser Val Gln Arg Thr  
1 5

<210> 402  
<211> 9  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 402  
Arg Thr Gln Ala Pro Ala Val Ala Thr  
1 5

<210> 403  
<211> 9  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 403  
Thr Leu Tyr Glu Ala Val Arg Glu Val  
1 5

<210> 404  
<211> 9  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 404  
Glu Thr Val Glu Leu Gln Ile Ser Leu  
1 5

<210> 405  
<211> 9  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 405

Lys Val Asp Glu Val Lys Ser Thr Ile  
1 5

<210> 406

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 406

Thr Ile Lys Phe Gln Met Lys Val Leu  
1 5

<210> 407

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 407

Lys Val Leu Cys Leu Ala Val Ala Val  
1 5

<210> 408

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide recognized by HLA-A26 restricted cytotoxic  
T lymphocytes

<400> 408

Ser Thr Met Gly Lys Pro Gln Arg Leu  
1 5

<210> 409

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on HIV

<400> 409

Ser Leu Tyr Asn Thr Tyr Ala Thr Leu  
1 5

<210> 410

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 410

Tyr Leu Trp Arg Thr Ser Leu Tyr Leu  
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<210> 411

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 411

Met Leu Gly Glu Glu Asn Thr Tyr Leu  
1 5

<210> 412

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 412

Thr Leu Thr Ala Leu Gln Trp Phe Ile  
1 5

<210> 413

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 413

Phe Leu Gly Tyr Ser Met Gln Gly Leu  
1 5

<210> 414

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 414

Gly Leu Phe Ala Arg Ile Ile Met Ile  
1 5

<210> 415

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 415

Tyr Ile Ala Gly Val Phe Cys Ala Ile Val  
1 5 10

<210> 416

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

<400> 416

Phe Val Ala Gly Tyr Ile Ala Gly Val  
1 5

<210> 417

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48



&lt;400&gt; 417

Ile Met Ile Gly Thr Leu Thr Ala Leu  
1 5

&lt;210&gt; 418

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

&lt;400&gt; 418

Gly Leu Thr His Thr Ala Val Val Pro Leu  
1 5 10

&lt;210&gt; 419

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide based on SW620-cl.48

&lt;400&gt; 419

Gly Ile Phe Asn Gly Phe Ser Val Thr Leu  
1 5 10

&lt;210&gt; 420

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

&lt;400&gt; 420

Lys Met Tyr Lys Glu Glu Gly Leu Lys Ala  
1 5 10

&lt;210&gt; 421

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 421

Ser Thr Pro Arg Pro Lys Phe Ser Val

1 5

<210> 422

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 422

Ala Val Asp Ile Pro His Met Asp Ile

1 5

<210> 423

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 423

Lys Leu Asn Lys Asn Lys Lys Leu Val

1 5

<210> 424

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 424

Lys Leu Ala Lys Lys Tyr Asp Ala Phe

1 5

<210> 425

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 425

Ala Phe Leu Ala Ser Glu Ser Leu Ile  
1 5

<210> 426

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 426

Ser Leu Ile Lys Gln Ile Pro Arg Ile  
1 5

<210> 427

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 427

Leu Ile Lys Gln Ile Pro Arg Ile Leu  
1 5

<210> 428

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 428

Leu Leu Thr His Asn Glu Asn Met Val  
1 5

<210> 429

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 429

Lys Val Leu Cys Leu Ala Val Ala Val  
1 5

<210> 430

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 430

Cys Leu Ala Val Ala Val Gly His Val  
1 5

<210> 431

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 431

His Val Lys Met Thr Asp Asp Glu Leu  
1 5

<210> 432

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 432

Leu Val Tyr Asn Ile His Leu Ala Val  
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<210> 433

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<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

<400> 433

Asn Ile His Leu Ala Val Asn Phe Leu

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<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
peptide based on KE4-cl.21

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Ala Val Asn Phe Leu Val Ser Leu Leu

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<211> 9

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<211> 9

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<223> Description of Artificial Sequence: Synthetic  
peptide based on HIV

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Ser Leu Tyr Asn Thr Val Ala Thr Leu

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